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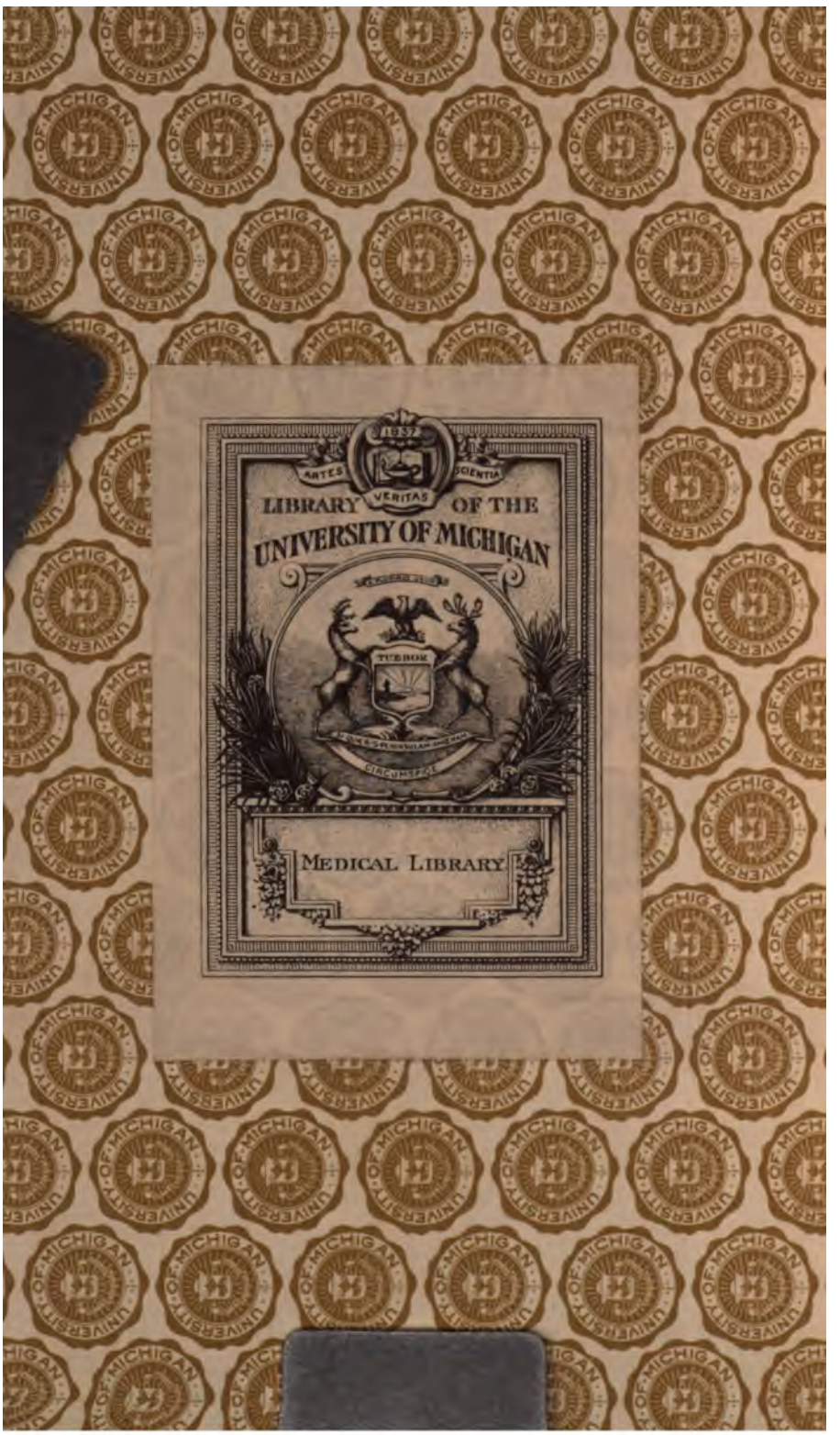
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JAMES B. McCAW, M. D.—GEORGE A. OTIS, M. D.

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ART. I.—*Memoranda of Cases in Country Practice.* By CAUTHORN ARCHER, M. D., Henrico County, Va.

ALTHOUGH the following cases do not illustrate any new point in pathology, or exhibit any thing novel in their treatment, it is hoped they will not be devoid of interest to the medical profession.

Case 1st furnishes an instance of a grave injury, terminating favorably, under very simple treatment, while it cannot but be interesting, from the long loss of the faculty of speech, during the period of thirty-nine days, and which persisted after every other trace of disease had disappeared.

Case 2d is interesting, on account of the uncommon sequence of symptoms, and the supervening of an unusual accident—an attack of apparently simple colic, followed by epileptiform convulsions, which for 36 hours seriously endangered the life of the patient, and during which, luxation of the lower jaw was produced by the violence of the spasms, and after continuing for nearly a month, was reduced only by great and continued efforts.

Case 3d offers an instance of the successful termination of a form of hemorrhage, generally fatal, under the external and internal use of astringents.

Case 4th is another evidence of the power of ergot to prevent post partum hemorrhages in cases where, from their previous occurrence, they may be expected.

Case 1.—On the 10th of December 1855 I was requested to visit V—— P——, a little girl about six years old, who had received a severe injury on the head from the kick of a horse. Upon my arrival at 8 P. M., about two hours after the receipt of the injury, I found her in the following condition: She was unconscious, breathing easily and regularly, without stertor; pulse weak, and rather quicker than natural; pupils natural, and skin warm. There was some paralysis of the right eyelid; and although she could move all of her limbs, those of the right side were moved less frequently and with more effort. There were neither nausea nor vomiting, and if any fluid was placed in the mouth, she swallowed it readily. Sensation was entire.

Upon examining the head, I found a wound, about an inch long on the left side of the head, nearly over the coronal suture, and extending to the centre of the head. By introducing my finger through the wound, I could easily detect a fracture of the cranium, with depression of the lower segment of the bone, from three to four lines. Being unprovided with proper instruments or assistants, and the symptoms not indicating any immediate danger, being those of concussion rather than compression, I determined to postpone any operation for the present. The wound having been somewhat approximated by strips of adhesive plaster, a compress was applied and directed to be kept wet with cold water, warm bricks applied to the lower extremities, and a calomel powder given. Before leaving, I directed a messenger to be sent to Richmond, requesting the presence and assistance of my friend, Professor Peticolas. On my return the next morning, I found the little girl in the same condition, and received a letter from Dr. Peticolas, stating his inability to meet me at that time. As the urgency of the symptoms was not increased, I determined to watch the

case, and not undertake an operation before having proper assistants, unless the supervening of graver symptoms rendered it absolutely necessary. Without giving a daily detail of the progress of the case, it is sufficient to say that for the next week the symptoms continued essentially the same, with the exception of some return of consciousness, manifested by her noticing things around her, and moving her mouth towards the spoon when it was offered to her lips. On Wednesday, the third day after the injury was received, some fever made its appearance, which lasted about thirty-six hours, but yielded to the local application of cold, purgatives and a rigid antiphlogistic regimen, which was commenced immediately after the receipt of the injury, and persevered in until her recovery.

On the 17th of December Dr. Peticolas visited the patient. Owing to the urgent and fatal illness of my nearest relative, I was unable to meet with him. Assisted by Drs. Drewry of Richmond and Farrar of Henrico, he proceeded to operate. Upon enlarging the wound, he found a considerable fracture, extending from the left across the parietal suture. A portion of the bone was depressed, and the lower segment driven under the upper, and so firmly impacted, that it required considerable force to draw it out. Such had been the violence of the blow that the outer and inner table of the bone were completely separated. The operation being finished, the edges of the wounds approximated by adhesive strips, the dressing was concluded by the application of a compress, directed to be kept wetted with cold water. The edges of the wounds were not drawn closely together, to prevent an accumulation of blood between the integuments and membranes of the brain.

I saw her again the next day. There was rather less paralysis of the right side, and less drooping of the eyelid. The pulse was weaker, face paler, and some coolness of the lower extremities, owing, doubtless, to the slight loss of blood from the preceding operation. Otherwise, her condition was the same as before. The bowels were open. Cold

compresses were kept to the head, and warmth directed to be applied to the lower extremities, until the general surface became warm.

On the next day (Wednesday) fever again set in, which continued for 36 hours, and yielded to the same means as before employed. From this time the patient gradually and uninterruptedly improved. The wound healed up by granulations, though two or three laminæ of bone were discharged during the process. Strength returned, the paralysis disappeared, and it soon became evident that she was able to recognize persons, and hear when spoken to, though she was unable to speak. The wound having healed up and her strength so far restored that she could walk about the house, her friends became very uneasy and apprehensive that she would never recover her speech. Having seen a case reported by Mr. Dunn, in which the power of speech, after being lost for more than a year, was completely restored, I felt confident that it would be regained in this case, and on my visiting her on the 18th January, was gratified to hear that she had spoken on that day for the first time, it being the 39th day since she received the injury. Her restoration was complete, physically and mentally. Since then she has enjoyed excellent health, and has not exhibited the least impairment of her intellectual faculties.

In concluding this case, I have but few reflections to make:

1. The delay in resorting to an operation. This was deferred on account of the want of qualified assistants, the symptoms indicating concussion rather than compression, and the youth of the patient—young subjects recovering much more readily from severe injuries to the brain than adults.

2. It will be observed that but slight symptoms of inflammation appeared at all, and then in one instance on the third day after the accident, and again on the third day after the operation—in both instances continuing for about the same time, and yielding to the same remedies.

3. The simplicity of the treatment. With the exception of purgatives in two or three instances, no medicine whatever was given, the treatment consisting in the persistent application of cold to the head, and a rigid antiphlogistic diet. The weather was unusually cold, and the patient in a very open house.

4. The long abolition of the faculty of speech, persisting until complete restoration otherwise, and continuing for several days thereafter, though it was evident that she understood every thing said to her—a fact corroborated by her own subsequent statements. I forbear entering into any speculations as to the nature or seat of the lesions of the nervous system producing this phenomenon.

5. It will be observed that the partial paralysis was on the right side of the body, while the seat of the injury was on the left. This accords with universal observation.

Case II.—Mr. E——, who had recently recovered from a protracted attack of typhoid fever, in consequence of imprudent eating was taken with symptoms of colic on the 25th of May last, which, after continuing for two days, became so severe that I was called in on the morning of the 27th. I arrived at his house about ½8 A. M. and found him in the following condition: He was about twenty-eight years old, of a delicate constitution, still showing signs of his previous illness. He complained of very severe pain, which he referred to his abdomen, and which was much aggravated at intervals. The tongue was clean; skin pleasant; no fever; headache or tenderness upon pressure. He had taken a dose of castor oil the day before, which had operated, but without giving any relief, and on the morning he sent for me he had taken fifteen drops of laudanum. As soon as I had satisfied myself of the nature of his disease, I gave him ℥ss of McMunn's elixir opium, and in the course of half an hour he seemed much relieved. Being compelled to leave, I directed, if the pain should not be entirely relieved, or if it returned, to give a pill containing five grains of calomel

and one of opium every two hours until he was relieved; also to have warm fomentations applied over the abdomen. I returned at 6 P. M. that evening, and learned that for a short time after I left he continued to get easier, but that after taking some milk, the pain returned with increased violence, and that nausea and vomiting had supervened. He had taken three pills, and used the fomentations diligently, but without receiving any relief. Indeed, the pains seemed steadily increasing. He had vomited several times, and was just recovering from an attack of vomiting as I entered the room, so that in all probability some of the pills had been thrown up. Neither fever, thirst nor headache were complained of. During the paroxyms of pain he threw himself about, and seemed relieved by pressing on the abdomen. From the warm applications he received no relief. A mustard plaster was applied over the epigastrium, and one of the following pills given every hour: Sub. mur. hdrg. xl grs.; pulv. opium, grs. iv—made into four pills.

I remained with him and administered the pills, except at one of the intervals, the pain was so violent that I gave half grain morphine instead of the pill. About ½9 P. M. he expressed himself as feeling easier. (He had vomited once or twice after my arrival.) At 10 P. M. when preparing to leave him, he commenced complaining of his head, declared that he could not see any thing, and appeared much excited. His pupils and pulse were entirely natural, and he still complained of pain in his abdomen. Whenever any thing was handed towards him, he readily reached out his hand and took it. The room was darkened, cold cloths were applied to his head, and in the course of an hour he became quiet and fell asleep; and hoping that he would be entirely relieved by morning, I left him.

About two hours after reaching home, I was hastily aroused by a messenger, informing me that Mr. E. was much worse—supposed to be dying. On my return, his wife informed me that he rested quietly for fifteen or twenty minutes after my departure, when he was taken with gene-

ral convulsions, which left him unconscious for a short time. He had four attacks of convulsions before my arrival, having just emerged from the last attack before my return. He was quite lethargic for fifteen or twenty minutes, with some fullness of the pulse, which disappeared, and was followed by some delirium. Cold was applied to the head, mustard plasters to the feet, an active purgative given by the mouth, and a purgative enema directed as soon as a syringe could be procured. About ½5 A. M. he again dropped to sleep, and was seized with another attack of convulsions, during which the face was much distorted, and became purplish. Coma supervened for a few minutes. At 7 A. M., being compelled to leave, to attend a lady in labor, I directed the purgative and enemas to be repeated until his bowels were moved; cold to be kept up to the head, the hair having been cut off. A blister was applied to the nucha. The attendants were directed to keep him roused, as he was invariably attacked with convulsions as soon as he went to sleep. On my return at 5 P. M., was informed that he had had two attacks of convulsions—one at 10 A. M. and the other at 3 P. M. His bowels had not yet been opened, though he had taken croton oil, and several large enemas had been administered. His general condition the same as when I left him, except that he was more inclined to sleep. There was no farther return of convulsions until 9 P. M.; and between that time and 7 A. M. inclusive, he had seven attacks. During the night his bowels were several times opened, without apparently giving any relief. When I left at 7 A. M. his situation seemed very critical; his face very much swollen and congested; unable to recognize any one; speech very bad, and pulse quick. The blister to the nucha had drawn well. During the night the head had been shaved and a blister applied, but had not yet drawn. I was much pleased, on my return at ½2 P. M. of that evening, to find him improving. The blister to the head had drawn well; and though he had had four attacks of convulsions, yet they were milder, and the intervals between them increasing,

while his countenance, though still dull, exhibited more consciousness. His bowels had been opened once; the tongue cleaning; pulse softer, beating 114 to the minute. Blisters were applied to the inner side of the thighs, and the enema was repeated. I remained with him until ½7 P. M., during which time he had no return of the spasms.

May 30, ½9 A. M. Found Mr. E. much better; had no return of the spasms; the blistered surfaces well vesicated; much more sensible; was able to recognize me; had one stool; mouth sore; tongue cleaner; pulse soft, and slower. Directed to have the blisters dressed, and to take chicken essence for nourishment.

At 2 P. M. Bowels very much opened; seven stools, the last dysenteric; pulse 98. Gave an injection of tannin and acetate of lead, and directed it to be repeated if necessary.

May 31, 10 A. M. Every way improved. From this time he continued to improve, treatment being confined to appropriate dressings for his blisters, detergent gargles for his mouth, and an occasional laxative. Though on the 30th and afterwards he always recognized his acquaintances, and showed no incoherence in conversation, yet upon his recovery he retained no recollection of any thing that transpired from the night of the 27th of May until the 6th of June. After this, nothing occurred worthy of note, until about the middle of June he called my attention to his being unable to close his jaws. I had observed for some time that he usually laid with his mouth partially open, and spoke badly, but I had attributed both circumstances to the severe salivation. Though frequently asking me as to what he could eat, he had never mentioned any difficulty in mastication. Upon making a thorough examination, I recognized luxation of the lower jaw, which resisted the usual manipulations to reduce it. Not feeling satisfied as to the propriety of using chloroform, I requested him to visit Richmond and consult my friend, Professor Peticolas, who also recognized luxation of the inferior maxilla, and attempted reduction. Not being able to succeed, he proposed placing him under the influ-

ence of chloroform, to which Mr. E. objecting, he sent him home, and engaged to meet me on the evening of the 26th of June. On that evening Drs. Peticolas and Howard met with me; and Mr. E. having been placed under the influence of chloroform, Dr. Peticolas succeeded in effecting reduction, after considerable difficulty and exertion. No farther difficulty occurred; and at this time Mr. E. is in the enjoyment of excellent health.

I briefly remark:

1. The convulsive attacks resembled epilepsy more than any other form of convulsions. While laboring under typhoid fever he was quite nervous; and I am informed that his mother suffered under an attack of derangement during her pregnancy with him. There being thus a constitutional and hereditary predisposition to such attacks, I am inclined to think that the opiates acted as the exciting cause, though it will be perceived that the quantity given was by no means excessive, and the pulse and pupils were closely watched during its administration, and its use was suspended as soon as the violent abdominal pains commenced abating. Besides, the symptoms in his case were very unlike those usually observed in cases of poisoning by that drug.

2. With regard to the treatment, which consisted in the administration of active purgatives, purgative enemas, blisters, ice to the head, and mustard plasters to the lower extremities. Although the pulse was full during the comatose condition, I did not think it expedient to practice general depletion, as the pulse soon lost that character. The patient had recently recovered from a protracted spell of illness, and I considered the symptoms to be dependent in some degree upon the opiates used, and I was unprovided with the means for effecting local depletion. During the first day I directed the patient to be kept awake, as he was taken with convulsions as soon as he went to sleep.

3. The occurrence of the dislocation, and its continuance so long before being discovered. This was owing to the fact of the severe salivation, and the patient never complaining

of any difficulty in mastication. It may not be uninteresting to mention that since being under the influence of chloroform, he has not been troubled with a pain in the chest, which had for a long time before annoyed him very much.

Case III.—On the evening of the 30th May 1858, I was called to visit an infant child of Mr. B—— of this county, on the third day after its birth. On my arrival I was informed it had been attacked with hemorrhage from the cord the day before, and that it continued until the present time, resisting all the means they had used to arrest it. The quantity of blood already lost was estimated by them at half a pint. This was probably an exaggeration, but the blanched appearance of the child, and the rapidity with which the cloths were saturated with blood, showed the serious nature of the hemorrhage. Upon examination, it was seen that the cord had not yet separated, but all around the edges where it joined the umbilicus, blood could be seen oozing out. No blood escaped from the end of the cord, and the mother denied being aware of any injury having been inflicted upon the cord. I first tried a piece of nitrate of silver, applied to the bleeding surface, but without success. Alum, finely powdered, proved equally ineffectual. By gathering the integuments up and compressing them between the thumb and fore finger, the hemorrhage could be arrested, only to return as soon as the pressure was removed. The muriated tincture of iron was finally resorted to, and the ¼ grain of tannin given every two hours. The muriated tincture of iron was applied upon dossils of cobweb. This substance was used, not from any particular preference, but because a quantity of it had been gathered and used before my arrival, and it answered the purpose of lint. Under this treatment the hemorrhage ceased, and the cord separated, without giving rise to any farther hemorrhage.

Case IV.—Mrs. —— was taken in labor on the 28th of May 1858, at 5 A. M. I saw her two hours afterwards. Her

pains were regular, and the head presented. Having been with her in a previous confinement, when she came near dying from post partum hemorrhage, and knowing that on two previous occasions she had been reduced very low from the same accident, I felt considerable anxiety in reference to her. Determining to follow the plan recommended by Dr. Meigs, of administering ergot just before the birth of the child, as soon as the head commenced emerging through the vulva, I gave a portion of ergot. The after-birth came away, the womb contracted well, and though occasionally it showed some disposition to relax, ice applied over the hypogastrium effectually controlled it. Mother and child both did well.

ART. II.—*Comments on Knapp's Synopsis of Knapp's Researches in Primary Pathology and the Origin and Laws of Epidemics.* By J. W. CLAIBORNE, M. D., Petersburg, Va.

IN the December number of this journal we have the announcement of Professor Knapp's new volumes on pathology. Under nineteen propositions he lays before us what he has undertaken to prove in his new work—and tells us, in the first ten lines of his synopsis, that his text and thesis are simply this—that the dyscrasia generally known as the scorbutic diathesis, "is the source or origin, the beginning or initial pathology of all diseases."

It should seem that the experienced and well-educated physician had been annoyed enough with empiricism through all time, to dread advancing any new theory of disease, without the greatest deliberation. So much has he been disgusted with the spasmodic efforts of charlatans to gain notoriety, that he is diffident of coming before an intelligent profession with a crude, ill-digested or fanciful assumption of any kind. Notwithstanding this sentiment, which we are taught to believe is almost unanimous among well-bred physicians, and which we are in duty bound to grant Pro-

fessor Knapp to the full, it is no great venture to say that the larger proportion of those who have read his propositions, have done so with minds reverting to the whole genus of Hahnemanns and Thompsons, who have from time to time misled the human race even to the death. No one would ever have gone so far as to say that Dr. Knapp was an empiric, however extensively he might have carried his theory into his own particular practice; but it is not saying too much to assert that, if he is a man who values his good name, he has shown, in his bold and careless attempt to urge his idea on the whole profession, an unpardonable want of judgment. Even if his theory be true, it is not of so much importance as to justify him in spreading before the world six or seven hundred pages of reading matter, unless they proved it to a demonstration. If it is a verity, as he makes free to say, that thousands of physicians, multitudes of reliable observers, among them many old authors of the highest repute, testify to the scorbutic origin of all forms of disease, they have set him a better example than to compile two solid volumes on the subject, and have moreover deprived him entirely of the lively originality which some of them might have claimed. We might, however, pardon this "making of many books," if we derived any thing like a fact in equivalence for our loss of time and for the purchase we might make; but it is almost too much for forgiveness, that our author should close his synopsis by saying, "If the new doctrine be false, doubtless any pathologist accustomed to writing (he warns that he must be accustomed to writing) can show where the fallacy lies. Such an argument the interests of science demand certainly, if the new doctrine be false." Now, is it not "naive," after all this labor, all this "partus montium," that our author should intimate that he is not very sure of the thing himself, and that we must not take him as being too entirely in earnest?

The chasing of imaginary ephemera in the walks of literature, and perhaps even in history and other paths of learn-

ing, may sometimes be unattended with injury to mankind, but it renders the votaries of a responsible profession irritable to have theorizers without a care for consequences, blowing into prismatic bubbles for their own amusement, facts which are important to mankind and to the existence of the race. The conscientious practitioner feels too keenly the ruinous effects of setting ajar his landmarks, not to be ardently intolerant of the "profanus vulgus" who tamper with them.

And now that we see Dr. Knapp so thoroughly possessed with the scurvy, or the scurvy having such a terrible hold upon him, we may ask ourselves to what use will he hereafter appropriate the great array of facts and authorities he has gathered together on this subject. Are we to regard it only as a philosophical disquisition, which he presents to the profession as a Christmas offering, and that he will return to the walks of daily life and practice as common folks are accustomed to do? Would not the scorbutic character of most of his consultations be very distasteful to a majority of medical gentlemen who were not as profound on that subject as himself? In fact, as he has worn the gown before, will he not find it most convenient and comfortable to do so again? In this way he could avoid the unpleasant little "contretemps," which might arise from his peculiar views. But inasmuch as the trustees or appointing powers of most institutions would object to his pathology, is it not more than probable we may yet see our worthy brother teaching, ex cathedra, in all the plenitude of a toga, this misty theory to our rising youth, in a school of his own founding; although he calls it only an "argument the interests of science demand, if the new doctrine be false." Let us, however, hope not.

But to the question. And at the outset of these hurried remarks, the writer would say he has not read the volumes. It so happens, the fundamental proposition that the dyscrasia known as scurvy is the cause of all disease, is a simple one, and one upon which any physician can estimate his faith in

five minutes, if he is tolerably well versed in medicine. It is a subject far better tested at the bar of common sense than that of authorities, for authorities on some subjects in medicine resemble those of the law. State your case and give the time, and however strange it may appear, it will at last certainly be proved "usque ad unguem." So it must be granted us, in order to proceed, that the ceaseless "march! march! march!" of some six or seven hundred pages, is only an extension of corollaries from the main assumption and the adjustment of his theory to various diseases. Now, what is scurvy? Watson's Practice, 2d American, from 2d London edition, 1845, lays at our elbow, and surely is considered good enough authority for a simple question. After describing the few external symptoms, from p. 1046 to 1049, he says, "In scurvy the blood is starved of some essential ingredient, which the juice of lemons and other fresh succulent vegetables readily supplies and renews. When drawn from a vein, the blood is often visibly unnatural." He then goes on to quote Huxham, who says, "The blood of such persons, when it hath been drawn off, always appears a mere gore, as it were, not separating into crassamentum and serum as usual, but remaining in a uniform half coagulated mass, generally of a livid or darker hue than usual, though sometimes it continues long very fluid, but it always putrefies very soon." Such a state of the blood, attended with spongy gums, bleeding almost to the touch, with debility and gastric or enteric hemorrhages, which are not so concisely given by Watson as to bear quoting, constitute a condition of things sufficiently unique to be grouped under the name of scurvy. Of course this degeneracy of blood has various grades and modifications, as have all diseases; but the more nearly it approximates the above description, the more truly is it scurvy; and the less nearly the less truly, even until it loses title to the name, and under a new grouping, becomes something else. This being the definition of scurvy, if any disease lack these symptoms or evidences, there is no scurvy about it. Even scurvy itself is not a unit but a group of

outward symptoms, whose general physiognomy receives a specific name to express the collective whole.

But when we look to the cause of the disease, the Dr. and the rest of the profession differ far more widely. Peculiarities of temperature which cause sickness in the vale and not upon the mountain top, do not produce intermittents, as we would argue, but only the scurvy. He would have it, the ugly little ulcer, which sometimes entails such disastrous consequences upon some individuals, does not produce syphilis, but simply scurvy. In fact, Dr. Knapp would change the name entirely of the pallid knight who tilts upon the white horse against the human race, and call him scurvy, or rather like one whose brain has been worried from its moorings by having in the stomach rather more stimulus than could be attended to, he sees the monkey now on your nose, now on your rheumatic knee, now on a rickety shoulder; and if you should have the colic, he would vow the monkey had you by the umbilicus. The reptiles crawl over the walls; they are under foot, they are over head; they are in the sunshine which warms you; they float in the zephyr which cools you, in the water you drink, in the food you eat. Except lemons, every thing every where teems with scurvy, incipient or complete. All earth and sky is filled with it. Whether decompositions and agencies, mineral and vegetable of earth, whether heat or cold vapors or drought of the skies above us, sublunary and translunary, is but one scurvy trick upon the human race. The man who is so herbivorously green as to believe all this, should be put through a twelve month course of sausages for the development of his eye-teeth. He would seem to make it the curse entailed by Adam on all his race, and to savor the more of the marvelous, even to be "contraria contrariis."

> "The fruit
> Of that forbidden tree, whose mortal taste
> Brought death into the world, and all our woe."

In nearly every proposition we are given to understand

that our author holds the same views of scurvy we are all accustomed to do. It is, he says, "known to be produced by defect of nutrition," and of consequence, that all disease is defect of nutrition. A man and his child some dreary night wander through a morass. The feeble child takes a pleurisy, and is therefore scorbutic. It proves nothing to Dr. Knapp to say that the child's nutrition is so active that it makes more upon the aliment of a week than the parent on that of a year. The child's blood is bad, and alimentation is deficient. A boy has coxalgia. It proves nothing, that although the leg withers and becomes useless as years roll by, yet the boy during the time grows a foot or two higher from the ground. Alimentation is interfered with. Select a half a dozen trees more or less. Exclude one carefully from the light. Isolate another electrically. Abstract certain salts from around the roots of another. Deprive another of sufficient moisture. Let the sun and climate be too warm for another. Deluge another with water. Blister the bark of another with hot water or nitric acid. Now each of these trees will die after some sort of defective nutrition, but it would be odd to contend that there was any peculiar dyscrasia attending the whole. The only unity to be seen in the fall of the trees is the unity of death, the acme it is true of all dyscrasia, unless the decomposition which ensues be it. Man, according to the vestiges of creation, is rather higher in the scale of organic nature than vegetation; and surely it is not unreasonable to consider that he is dignified with even a few more necessaries to his luxuriance. If physicians should declare they have found a prime original to all disease in man, surely the old farmers might wonder that such a complicated machine as man should have but one particular source to all his ills, and one for which lemon juice is the "elixir vitæ immortale," while he from year to year is pruning, composting and dressing his trees and vines for scores of evils.

Why is it that this scorbutus, which, although described, was not even named by Hippocrates, has been raised from

its obscure place, and put over the head of all other diseases? Have syphilis, scrofula, rheumatism, and the like, no friends? Psora, or the itch, received from Hahnemann and disciples royal honors for a while, but those who pay their reverence to this dignitary are perhaps becoming very few. The candid truth we suspect is this. Scurvy is a simple disease, unattended by various symptoms and phenomena requiring explication. It is a case of pure degeneracy of the blood, unattended usually with fever, resulting almost invariably from deficient nutrition, and returning its physical evidence when the circulating fluid is examined. In this respect it affords a rare opportunity, and gives none of the trouble which syphilis and other affections would give in the multitude of facts to be homogeneously reconciled. But as for analogies, let no ambitious youth despair. Good theories can be made from many a disease, which now slumbers in inglorious neglect.

But again. "Prof. Robinson of Edinburgh was once at a table, when a negro servant lacerated his thumb by the fracture of a china dish. He was seized with convulsions almost instantly, and died with tetanic symptoms in a quarter of an hour." Watson, Am. ed. 1845, p. 355. A girl at some boarding school, blooming with health, has hysteria, and in five minutes a half dozen follow her example. Another scratches her ear with a pin, and soon has her head swelled with erysipelas. Another eats heartily of fruit or fish, and breaks out in ten minutes with an urticaria. These we are told to be the effect of the scorbutic diathesis. Most unreflecting men would argue for a month that such susceptibility to disease was the probable result of living too luxuriously. Not so with the Dr., who tells us that dull and heavy scurvy, which so congeals our fluids as generally to make us insusceptible of every thing else, is at the bottom of it all. Surely, wine, spiced beef, catsup and French mustard are now at a premium, if this be so; but we may guess that our author could never have seen a sire or grand sire with his foot on a chair, and enveloped in flannel, be-

wailing, with lamentations and unchristian curses, the imprudence of duck and oyster suppers, of champagne and turkey salad.

But these comments are already longer than was intended; and "not being a pathologist accustomed to writing," more has been said than was planned at first.

Disease is at present a plurality, and as vague as it is, it cannot be said its primary forms are a great deal more numerous than the elementary substances of chemistry. We must wait a while and gather facts. As true men of science, physicians should declare nothing they have not attained an evident knowledge of, but take disease as they do all the rest of nature, to wit, as they find it in this blessed nineteenth century. Let them make as many facts as possible in their pathology, so long as they are ignorant of elemental ones, and instead of vaingloriously boasting themselves the possessors of some grand talisman by which to disperse all the mysteries of pathology, humbly imitate the laborious astronomer with his tables, the chemist with his patient analyses, and wait the Almighty's own good time to reveal undoubted facts, before they flippantly expose themselves to contempt, by gratuitous assumptions. Our profession is a sacred one, and in a considerable measure the lives of mankind are entrusted to our keeping. We are of the retinue of Clotho, Lachesis and Atropos, and can do and have done much to lengthen human life. Let us beware how we make it shorter than the inexorable Three may define it. Next to him who tampers with human souls, if there is any chosen curse of God pregnant with uncommon wrath, it is for him who tampers with the life of his fellow-man.

ART. III.—*Continued Fever, of an Adynamic Form, popularly called "Typhoid Fever," as met with in Chesterfield County during the present year—With Remarks, &c. &c.* By J. WISTAR WALKE, M. D., Winterpock, Va.

WERE one to stop amidst the natural deductions derived from his own experience and careful observations, assisted by a knowledge to some extent of the laws which govern the system of man, the ills of which he feels missioned to mitigate, to delve into the endless confusion which attend the nosology of fever, the mind would ever be embarrassed, and fail to grasp the great truths which lie scattered along the pathway of the *thinker*, to illumine his footsteps and direct him to those results which promise the consummation of the medical philanthropist's brightest hope—the good of mankind. Ignoring then the unnecessary and arbitrary division and subdivision of the types of fever, by medical pathologists, I shall endeavor to describe this fever, in as succinct a manner as I can, at the same time desiring to remark upon its peculiarities, &c. &c. This disease, as it appeared in our community, seemed to be more of an endemic than epidemic origin. It did not, like certain epidemic disorders, dependent upon a particular "constitutio aeris," sweep entire districts of country. On the contrary, it would not unfrequently take up its abode in the most healthy communities—upon farms where we least suspected the existence of any poison to originate disease of any kind. After committing devastation in a family, marching regularly through the entire family, in some instances, with as much certainty as would mark the spread of admitted contagious diseases—it would raise a "flag of truce," which, before you had time to rest from the struggle just passed, would be converted into "war colors" in some distant community, again to commence the relentless invasion. I have in my "mind's eye," at present, three families which were visited by this scourge during the present year. These families live

in separate and distinct neighborhoods, at a distance of some ten miles from each other, the region of country between them being quite densely populated. Notwithstanding the disease raged with marked malignancy in these families, those in the adjacent country enjoyed a singular immunity from the disease. Indeed, our community never was more joyous in its freedom from diseases of all kinds, excepting the families afflicted with this fever, than it has been the past summer and fall. As far as I have observed, there has been in every instance certain premonitory conditions attending the formative stage of this fever, which betrayed its approach—languor, inattention to business, and a general "*malaise;*" which condition lasted some days prior to a visible indisposition, when the individuals would take to their bed. The symptoms which seemed, more particularly, to urge the patient to bed, and demand medical aid, were, pain in the head; heat of skin; unconquerable thirst; pains in the back and limbs; a tongue covered over with a profuse *cotton-white* fur, and a circulation, which, whilst it was morbidly accelerated, betrayed, at the radial pulse, extreme prostration.

And here let me say, the prostration was exhibited to a remarkable degree, considering the short time the individuals had been confined, and did not partake of that character of debility common to persons whose muscular strength and nervous energies had been gradually frittered by protracted confinement, and the exhausting effects of disease. On the contrary, they were usually, in the beginning, alarmed because of the utter prostration which overwhelmed them thus early in the attack, and would argue, from their own experience of sickness, as they had felt and seen it, that they were strangely affected—invariably replying, when questioned in relation to their feelings, "oh! how weak—how weak I feel, doctor. If you will only give me something to strengthen me, I will soon be well." The pain in the head which usually, though not invariably, attended the first stage of the disease, did not seem to proceed from an afflux of

blood to the brain and its accelerated flow through that organ; for the ordinary means practiced for the relief of such a condition, topical blood letting, cold applications, blistering, &c.—were wholly inadequate; and an early resort to the most active and diffusible arterial stimulants, so far from increasing the pain and augmenting the tendency to delirium, had evidently an ameliorating influence—as if this great organ was fettered by some *monster poison*, and required assistance to restore its healthful functions.

Nor did the hot skin seem to depend upon an over excited capillary circulation; for the blood in this system creeped slowly along its channels, and, not unfrequently, the surface would be covered over with a uniform moisture, presenting the singular phenomenon, of a hot though moist skin, with no abatement in the frequency of the pulse. The pulse would vary in different cases—sometimes running as high as one hundred and twenty—and even higher than this in some cases. In several malignant cases, which came under my own personal observation, the pulse was greatly below the natural standard—sometimes beating as low as sixty and seventy strokes to the minute. In these cases the depression was alarming, and the most vigorous means required to rally and sustain the vital forces. The pulse not only varied in different cases, but was constantly fluctuating in all cases, of a grave character; not standing at one thing four hours together, whilst in some instances the pulse would, from its full and frequent beat, induce the careless observer to imagine the inflammatory type or element to be in the ascendancy; yet, upon a careful and studied examination, in a large majority of cases, its compressible character—entire want of firmness and vigor, would clearly indicate that such was not the fact, and that we had really to contend with a disease in which the nervous (not the sanguiferous) system was the prime seat of the disorder. The subtle poison, whether it be of animal or vegetable origin, dealt its first blow at the nervous system. I shan't stop here to discuss the "modus operandi" of poisons upon the animal organism,

nor speculate in reference to which of these two great systems become primarily involved in this fever. Generally, in the very commencement of this fever there would almost always exist abdominal uneasiness, particularly when there was a call to stool, which would be in a very few days so increased as to manifest itself by tenderness, on being percussed over the lower bowels. Not unfrequently there would be decided tympanitis and meteorism, similating "enteric fever," as described by Wood. In other cases, there would be that dull, heavy expression of features, muttering delirium and livid countenance, mentioned by authors as characteristic of "typhous fever." The urine, as in most febrile conditions, was high colored and scanty, with nothing peculiar about the deposits. After the lapse of six or eight days, nearly in all the cases there was more or less obtuseness of hearing; which induced the patients to believe they were under the influence of *quinia*. There was always, from the onset, the most ungovernable insomnia, which proved a most troublesome feature in the management of the disease. This condition was generally exhibited to a greater or less degree throughout the attack, and would frequently defy all means practiced for its relief.

In some ten or twelve days from the beginning of an attack, we were not unfrequently flattered by the appearance of a most fallacious symptom, which, under ordinary circumstances, would be hailed and greeted as prognosticating a speedy and favorable issue; but, in this fever it proved, in very many instances, to be an "ignis fatuus," likely to mislead the judgment and betray you into the expression of too sanguine hopes—I mean a warm, perspirable surface, which to the unpracticed eye, will induce the belief that the disease is at its crisis, and that soon all will be well. This conclusion we will soon ascertain to be false, for instead of an amelioration of the accompanying symptoms, the disease will advance unchecked for a week or more, and the individual either finally die, or get well after a protracted convalescence.

The tongue, too, from its moist and perfectly natural state at times, was calculated to excite our most sanguine hopes, not warranted in every instance, by the subsequent results in the case.

I remember well one individual who died of this fever the past summer, after an illness of four or five weeks, in whose case there was always, after the first ten days, a natural condition of skin; calm mind; moist, clean and normal tongue; with a pulse never exceeding eighty. These are peculiarities of this fever, and constitute it unlike, in this particular at least, the bilious or remittent fevers so common in by-gone days in this part of Virginia. The latter fever had its period of invasion marked by hot and pungent skin, dry tongue, thirst, &c.; which condition of things lasted according to the severity of the attack. When, however, by the use of a proper antiphlogistic treatment, alteratives, &c. &c., the secretory functions were enlivened, as indicated by a moist tongue, and a genial perspiration bedewing the entire surface, we were forced to the conclusion, by past experience, that the disease was at a favorable crisis—that the sun was riding the storm, and a bright day would follow the passing clouds. Not so with regard to the fever which has created such a panic in our community the past two years. Here, such symptoms as were regarded favorable in other febrile affections, shone forth amid the most portentous danger.

The mode of attack of this disease is so insidious, generally speaking, that medical aid is rarely invited till the disease has fixed itself firmly upon the system, unless where you are attending a family, and a new case springs up whilst you are waiting on the old. Thus the plan of treatment I have usually initiated, depended upon the stage at which I was consulted. In beginning the treatment of this fever, I have always endeavored to bear in mind (what I regard an incontrovertible fact) that the disease is specific—that there is but one species, although there may be many varieties. I am inclined to attach more importance than a great many, to the declaration of Bigelow, when he pronounces it a

"self-limiting disease;" passing through, in all protracted cases, the same successive stages, exposed, of course, to modifying influences.

I furthermore believe that "*post-mortem*" examinations would, in almost every instance, reveal the same lesions. Indeed, in those cases where the vital energies have been entirely overwhelmed by the "*materies morbi*," and death closes the scene in a few days, as sometimes happens, from a palsied state of the brain, we have every reason to believe that the characteristic intestinal lesions were in prospective, and would have been satisfactorily developed had reaction taken place to some extent—that is, to the extent of exhibiting the phenomena common to the disease.

The practitioner of medicine who has seen but little of this fever, and has been accustomed to treat fevers of a different nature altogether—such as require a resort to bold antiphlogistic agents, as the lancet, mercury, tartar emetic and quinine as a febrifuge—will find himself, after a fair trial, forced, by sad experience, to acknowledge the error of his course, and the total inadequacy of heroic measures in the successful management of adynamic continued fever, or typhoid fever, if you please so to call it.

Believing, then, that there is no greater *humbug* than HE who calls himself a *curer* of this form of fever, I am content always merely to endeavor to guide the disease to a favorable termination, ever bearing in mind that the "nimia cura medici" frequently cripples the best efforts of the "vis medicatrix naturæ."

When called upon to prescribe for this disease in its formative stage, which rarely happens, I usually lay the basis of future treatment, by giving a mild purgative, preferring the *blue mass* over all others, because of its mild and unirritating character, and the already existing susceptibility to the purgative impression. In some six or eight hours after giving an adult from ten to twenty grains of blue mass, with or without some preparation of opium, according to circumstances, I have generally, when the blue mass failed to pro-

duce adequate purgation, directed a dose of castor oil, with a "fluidrachm" of the "oil of turpentine," in combination. This will rarely fail of procuring a satisfactory evacuation of the bowels.

Should the operation of the medicine be followed by that peculiar diarrhœa, so frequently met with in the disease, I have usually given *blue mass* in combination with "morphine," or "Dover's powder," as choice might direct—say three grains of blue mass, with a quarter of a grain of morphine, or three grains of *Dov. pulv.* once in from four to six hours, till the bowels were calmed, or fifteen or twenty grains of *blue mass* had been taken in addition to that already administered.

Just here is an important juncture in the management of this disease; and the question arises, how far should purgation be carried? In answer to this interrogatory, I would say, but little purging is necessary. Indeed, after the early or inflammatory stage of the disease has passed by, I studiously avoid irritating the bowels by the administration of any cathartic whatever, preferring to rely upon injections, should the bowels require opening.

Believing that there is inflammation, or ulceration, in almost all of these cases, I would enjoin the importance of keeping the bowels perfectly quiet, upon the same principle that I would bandage and splint a fractured bone or confine an inflamed joint. Our attention then, so far as the bowels are concerned, should be directed to modifying morbid action; which end is best accomplished by the judicious use of the alterative plan above advised. When summoned to visit individuals with this fever, in a large majority of the cases we find it too frequently the case that purgation has already been carried beyond propriety by some member of the family, and we are forced to enter upon the alterative course of treatment on our first visit. Medical men, too, are sometimes prone to the lavish use of purgative medicines, which, so far from abating the disorder, are apt to hasten the typhoid stage, or aggravate it should it already

exist. When *blue mass* has been carried to the extent desired, for the time being, and the diarrhœa still continues to distress the patient, and proves to be, as sometimes happens, the chief disturbing element in the disease, we are compelled to use opium, or some of its preparations, in combination with acet. lead or tannic acid—say half grain of opium or a quarter of a grain of morphine, with from two to three grains of acet. lead, or, as I prefer, from three to five grains of tannic acid, given, in pill form, every three or four hours, till the action of the bowels is restrained, or too much cerebral excitement induced, in which event the opium should be omitted. I may here remark that I have met with no disease in which, when timely used, opium exerts a more happy influence. It sometimes calms the most restless nervous condition, and converts the delirium, so frequently met with, into gentle and refreshing sleep. This anodyne and astringent treatment will actually have the desired effect. When, however, this fails to compose the bowels, I have sometimes used starch and laudanum injections in the rectum, with good results. Should the bowels become too much confined by this treatment, when resorted to before they have been properly evacuated, whilst the sanguiferous disturbance predominates, we will have to give some mild laxative, or in the ataxic type of the fever, rely upon injections to assist the natural impulse to stool. Adjuvant to the foregoing treatment, when the fever was high, with hot and dry skin, I preferred, over all other diaphoretics, the "effervescing draught," given every two or three hours, with a portion of antimonial wine, or ipecac. wine, provided the last two articles do not distress the stomach. Ice I allow freely, particularly in the more inflammatory types of the fever, but very much question the propriety of its extravagant use in those cases where the typhoideal condition has existed for any length of time, as in such cases we find it difficult to maintain an equilibrium of temperature, and hence fear the sedative effects of cold thus applied.

After the first stage (as authors would say) of the disease had passed—leaving the individual with a sluggish capillary

circulation, evinced by the peculiar dusky hue worn by the entire surface of the body; a dry, chapped tongue; less vigor of pulse; increased restlessness by day, with disturbed and unrefreshing sleep by night, clearly indicating a deranged innervation—I usually venture cautiously upon mercury as an alterative, having seen it act like a charm in some cases, and I fear injuriously in others, where it was too perseveringly used. As I have before said, I decidedly prefer blue mass to any other form or preparation of this potent agent. I therefore give two or three grains of blue mass every five or six hours, in combination with opium, either to control the bowels, which are generally irritable, or to promote sleep, by calming the nervous symptoms. The effects of this prescription should be watched, as its good or bad influence will soon be manifest, either in a speedy improvement, or aggravation of the symptoms.

Should the skin become soft, the pulse steadier and less frequent, the tongue moist and the mind more composed, we may safely conclude that the prescription is a judicious one. But when we, after a prudent trial, find no improvement in the above symptoms,—on the contrary, discover a red and spongy appearance about the gums, an angry looking tongue, more or less delirium, and an irritable pulse,—we had better desist. At this juncture, I confess I discredit the farther use of mercury in any shape, as a safe means. Mercury, I know, is regarded as the sheet anchor of success in the management of this fever, by high authority, even carried to salivation.

But really, when we reflect upon the true nature of the disease,—its entire want of resemblance to all or nearly all the diseases or conditions in which mercury is known to be applicable,—we should act with great deliberation in the employment of this potent agent, so antagonistic in its effects to that fibrinous condition of blood essential to the healthful action of the entire organism.

It becomes us here to discriminate (I mean in the management of this disease) between those fevers, the result of

inflammation of serous membranes, and those the result of inflammation of mucous membranes. We well know that mercury is more applicable to, and is used with a much more liberal hand in fever arising from inflammation of serous than mucous membranes.

In, for example, pleurisy, peritonitis, and such like diseases, we can venture upon a more active use of mercury than in enteritis, gastritis, and other diseases of this character. Indeed, in all conditions, where the fibrinous element of the blood is in excess, we are compelled to give mercury precedence over all other means (blood-letting perhaps aside) known to the profession. This, however, is not the case with the fever under consideration. Here, it appears, the morbific agent, whatever it is, deteriorates the fibrinous constituent of the blood, and thus weakens the great protein basis of the economy. Hence the importance of using with great care all depletory means in the treatment of this form of fever.

Now, in the mixed forms of this disease, where there is, as not unfrequently happens, a "blending of types," a conspicuous admixture of bilious disorder, or prominent inflammatory symptoms, we feel more justifiable in the use of mercury. Of course, here the judgment and experience of the physician are called into requisition.

After a few days, and in some cases from the beginning, there is apt to be, as before alluded to, more or less griping or uneasiness in the abdomen, which is usually increased upon an invitation to stool. This is the period at which, should the inflammatory symptoms have subsided more or less, I almost invariably commence the internal use of the oil of turpentine—*emphatically* "THE *remedy*"—curative in all respects, in my humble opinion. It will be perceived that I do not in all cases delay the employment of this important remedy, as late in the disease, as is advised by the distinguished author, who in my opinion deserves to be regarded as the first to attach that importance to the remedy, in typhoid fever, it has of late won for itself (Dr. Wood).

This distinguished author and practitioner of medicine advises its use to be delayed till there is dryness of tongue, tympanitis, impaired secretory function, &c. But I can see no reason for delay beyond that period at which the system would bear the administration of so gentle a stimulant. I therefore administer from eight to ten drops, from a two or three ounce vial, every two hours, on a lump of sugar, as the basis of the treatment, at this particular stage.

I have sometimes met with cases in which the stomach would refuse to take this medicine kindly; but these are rarely seen, except the stomach be already in an irritable state—in which cases I have generally succeeded in accomplishing my wishes, by giving it in combination with laudanum. I have also had to use it in this way, where I feared the bowels might be, more than common, sensitive to its impression. The oil of turpentine may be continued, alternating with such other remedies as the case may require, throughout the attack, unless some incidental symptom should arise contraindicating its use. My experience induces me to say that I regard this agent as having no equal in the treatment of this fever. Of course I will be understood aright when I make this assertion. Generally speaking, its employment for twenty-four or thirty-six hours, will be attended with an amelioration of some of the most threatening symptoms—an improved tongue, improved circulation, improved bowels, and exercising the most wonderful tranquilizing influence over the nervous system. This remedy should never be pushed to the extent of nauseating the stomach. I prefer rather when nausea supervenes, to suspend it for a while, and again try to resume its use. The chlorate of potash is highly spoken of by certain authors, as an invaluable alterative in this disease. I have frequently used it with, I believe, good results, where the reactionary movement was not too great. From ten to fifteen grains, given in solution every two or three hours, will not unfrequently, I have thought, produce a moist tongue and soft skin, &c. If the pathology of this disease be correctly un-

derstood by modern teachers, we cannot attach too much importance to the timely use of vesication to the walls of the abdomen, the chief seat of lesion. I have, therefore, commonly ordered, coincidently with the commencement of the *turpentine treatment*, a large blister over the lower bowels, to the right of the "*linea alba*," as the abdominal median line.

A blister thus applied will enable you, should it become necessary at a later period in the disease, to apply another on the opposite corresponding side, which is preferable to blistering the entire abdomen at once, thereby precluding the possibility of using counterirritation at this important point at a subsequent stage of the disease, when, as I have seen, in protracted cases, it desirable to open the *batteries* upon the *enemy* afresh.

Indeed, I have, after thus vesicating the entire front, and there still lingered an unpleasant irritation about the bowels, resorted to a larger blister applied to the lower back, over the sacral region, with the happiest results. My experience in this disease induces me to regard an early resort to a supporting plan of treatment as highly essential to its successful management. Believing, then, that blisters can be applied at an earlier stage in this than most other fevers, I do not hesitate to advise their use, ordinarily, after the first three or four days. It is during the second stage of this fever that the nervous symptoms begin to run high, and our best skill is called into requisition to calm the tempest-tossed system.

Just here the pulse is apt to deceive, and lead astray one who has seen but little of the fever. A frequent pulse, with some volume, is too often taken as indicating strength and a preponderance of sanguiferous disturbance, when in truth there is great depression; and the restlessness, delirium, and insomnia present, go to show incontestably that the nervous disturbance overrides every other. This deceptive pulse has some volume, but when closely examined, it is what I would call a confluent pulse—that is, the pulsa-

tions run into each other. They are not distinct and plump (if I may so express myself), indicating the tonic contraction of the heart to be unimpaired. On the contrary, this compressible pulse clearly indicates that a principle of atony pervades the entire system. This atonic principle seems to abide particularly in the muscular tissue; hence the utter prostration and indifference to muscular exertion, and paralyzed condition of the left ventricle of the heart, evinced by the sluggish and irregular manner in which the column of blood is propelled into the life-giving channels of the body. My experience in the management of this disease induces me to regard an early resort to stimulants as indispensable to success in its treatment. My mode of commencing their use is, as soon as I discover the vital powers begin to flag, it matters not at what stage, to administer some stimulant, and watch its effects. Should the remedy be well borne, and no condition arise to contraindicate its further employment for the time being, I push it to the fullest practicable extent. So far, generally speaking, from having the symptoms aggravated, I have been pleased almost always to discover a decided improvement in the most threatening symptoms. I well know this is an important point in the treatment of all fevers. When to commence the supporting plan? is a question, in the decision of which, young practitioners, particularly, are often embarrassed, and, not unfrequently, make grave errors. There is less risk to run in deciding the period at which stimulants should be given in this disease than most others.

The various names by which it is called—"slow fever," "low fever," "nervous fever," "adynamic fever," "typhoid fever"—indeed, the symptoms, and all connected with the disease—appeal to us for help. We should be careful, therefore, lest the blustering excitement, which sometimes attend the onset of this disease, should deter us from the timely employment of this rational treatment. I usually, then, commence the use of stimulants by venturing upon port wine, in addition to stronger diet, which, in the less malig-

nant forms of the disease, will alone install a permanent convalescence. When, however, we find these means inadequate to the support of the sinking vital forces, as will certainly be the case in the severer forms, it will be proper to call to our assistance other stimulants; the most efficient of which is, I think, camphor. This I give in from three to five grain doses, combined with, in extreme cases of depression, the same quantity of capsicum, in pill form, every four or five hours—shortening or lengthening the intervals as the case may require. I have sometimes met with cases that would bear the use of camphor better, and at an earlier period than any other stimulant. Camphor, in combination with opium or morphine, both as a stimulant and nervous tranquilizing agent, is invaluable, judiciously employed, in this disease. So important is it to sustain the waning powers of life, by the regular administration of stimulants by day and night, when they become necessary, I have seen their omission through the night result, in several cases, in the most alarming prostration of the vital forces.

I have one case, in particular, in my mind's eye at present, which came very near dying from an omission of this sort.

I had ordered camphor, capsicum, and wine, at stated intervals; the nurse, from some cause, failed to give the medicine by my directions, making the intervals just double as long as I desired. I was summoned to see the patient, as was supposed, in a dying state. Indeed, I so regarded him on first sight, and, upon enquiry, learnt of the mistake. The same plan of treatment was resumed, when warmth, and a gradually returning circulation excited my hopes, and induced the opinion that the alarming depression was consequent on the omission as above stated.

I have seen cases in which it would be necessary to use the most active stimulants every two hours, day and night, for two or three weeks, without exerting any very obvious effects, except to maintain life. In extreme debility, I resort to the free use of brandy, milk toddy, egg-nog, and the essence of beef or chicken for diet.

A mode of stimulation, from which I have seen unmistakable good results, consists in the application of several small blisters along the arms, thighs and legs (the inner portions), nothing being better calculated to arouse the sleeping capillary energies, and restore equilibrium to the nervous and circulatory systems. These blisters should not be allowed to remain on longer than simply to excite the surface, without inducing vesication.

There are some, I believe, who contend that this disease may be expelled by a *coup de main*, and hence resort to the most extravagant use of *quinine* and *veratrum viride*. Neither of these remedies have maintained the character, claimed for them by their friends, in my hands, in the treatment of this fever. Quinine is a stimulant and sedative. As a stimulant, I contend, it has superiors; as a sedative, I have never felt its need in the management of any case that has come under my observation. I have sometimes, when called to prescribe for a patient, in the earliest dawn of this fever (which rarely happens to any medical man), administered quinine with the view of cutting it short, or materially modifying it in its course. I can't say that it has, in a single case, given satisfaction; but can recollect many cases in which it has, in my opinion, operated in the most injurious manner. Of course, I can't speak of the experience of other medical men in the employment of this remedy, but my own experience excludes it in the management of nine-tenths of the cases of this fever. In those particular cases, where you meet with, as sometimes happens, a blending of types,—the malarial element playing an important part, and the arterial vigor distinct, and running high,—I believe quinine accomplishes much. Indeed, in all those cases of fever, in which the typhoid condition does not exist at all, or to an inconsiderable degree, I use quinine freely, and I think, with good results.

But, in all cases of a strictly typhoid character, with tympanitis, abdominal distension and tenderness, irritable bowels, disturbed stomach, with insomnia, great restless-

ness, &c.—this remedy I regard positively inadmissible, and will, nine times in ten, complicate the disease, and render it more unmanageable.

Its irritating effects upon a surface already irritated, and possibly inflamed; its incompatibility with that condition which demands the use of opium, the great remedy in the disease, precludes the possibility of its salutary employment, at least in a large majority of cases. I have great faith in quinine, but not in this disease.

As regards the veratrum viride, of which so much is thought by some, I can only say, that a patient laboring under this disease has the powers of life already too much under the sedative influence of the causative poison to admit of the indiscriminate use of this potent remedy.

I have thus imperfectly given an account of this disease as it prevailed in my practice, with an outline of the course I usually pursued in its management. Of course, much of the detail of treatment has been omitted—such as alterations, from time to time, throughout the progress of the fever, to meet particular indications.

I now bring this paper to a close, by putting the following interrogatory to the profession. Are bilious remittent fever and typhoid fever the product of the same poison? and, if not, as we must think, may not quinine be an antidote to the poison producing the one, and not the other? Quinine, we know, is the only sure remedy in the treatment of intermittent and remittent fevers. These are the product, we are taught, of miasmatic or paludal poison:

Typhoid fever is the product, we are taught, of "koinomiasmata," or animal poison, and in this disease, quinine does not exert the same good effects as in the intermittent class of fevers. This is an interesting point to decide, at least, with myself.

ART. IV.—*Congenital Extrophy of the Bladder, with Prolapsus Uteri, treated in the City Hospital, Brooklyn.* Reported by F. D. CUNNINGHAM, Resident Surgeon.

MARY Mc——, æt. 28, born in Ireland, seven years in U. S., vestmaker, admitted September 1st, 1858—states that she has always enjoyed excellent health; menstruated first at the age of sixteen, and was regular up to last November, when she became pregnant. At the end of eight months she was delivered of a dead child. The labor was natural, lasting fourteen hours, and the child was of full size for the time. She was confined to her bed for about a week, and on the eleventh day after her confinement she presented herself to Dr. Cochran to be treated for prolapsus uteri. Menstruated on 20th August, one month and fifteen days after delivery. The prolapsus uteri increasing and preventing her from following her occupation, she applied for admission into the hospital on the 1st September. An examination disclosed the following anomalous condition of the genito-urinary organs. The symphisis pubis is separated for a distance of three inches, or more properly, there is a deficiency of the bones in front for that distance. The intervening space is occupied by a dense fibro-cartilaginous substance, which holds the bones very firmly in position. Just above this band, in the median line, is a deficiency of the abdominal walls, elliptical in form, with its longest diameter two inches in length, and transverse to the body. This opening is filled by a moist mucous membrane, representing the posterior wall of the bladder, elevated above the surrounding integument, but continuous with it at its borders. On each side and at the lower border are the openings of the ureters, from which the urine is constantly dribbling, but under excitement it is sometimes thrown out in jets. The vulva is represented by an irregular opening, surmounted on either side by an excrescence forming the imperfect labia. The vagina is very large and short, so that since her confinement

the os uteri has always been in view, and more recently the condition of procidentia has existed. There is nothing resembling an urethra, nor could any trace of an umbilicus be discovered. Prior to her confinement she had never experienced much trouble from her condition, wearing constantly cloths, which were changed as the occasion required. In all other respects she was a well developed woman, of strong passions, and fond of frequenting balls, &c. like the rest of her class in the cities.

Dr. Cochran operated to relieve the prolapsus, by removing the mucus membrane from the bottom and sides of the vagina for about an inch, bringing the walls together, and retaining them with two figure 8 sutures to get adhesion of the surfaces. A sponge was placed so as to retain the urine, if possible, which would otherwise be constantly passing over the part, and thus prevent adhesion. The sutures were removed on the 6th day, when there was very little effort at union, though the granulations looked healthy. On the 14th day she was permitted to get up, when the prolapsus was found to exist nearly as much as before; for though the operation had diminished the calibre of the vagina, there was still room enough for the neck to pass. After trying pessaries of various styles, and experiencing great difficulty in the use of the most approved ones, from the deficiency of the pubic bone, she left the hospital on the 29th of September, wearing an instrument which answered the purpose, and made her quite comfortable.

Most surgical works speak of these deformities as not unfrequent; and there is a representation of it as occurring in the male, in Gross on Diseases and Injuries of the Bladder, but I cannot refer to any description of it occurring in the female. The case obtains some interest too from the fact, that a day or two after it was seen by Dr. C., he saw another similar to it, both occurring in his private practice, bringing forcibly to mind the old adage of "coincidences in surgery."

TRANSLATIONS AND SELECTIONS.

I. *On the Fluctuations in Frequency to which Pneumonia is liable, with special reference to those occurring during the two Decimal Periods* 1836—1856. By Dr. ZIEMSSEN, Berlin.

IT is no novel observation that pneumonia, at times a comparatively rare disease, is at others a strikingly frequent one, without, however, ever accumulating to any considerable epidemic. The details of this fluctuation have not yet, however, been definitively determined for any one special place, and far less have any comparative observations been made on the simultaneous oscillations in several places. In fact, the only material hitherto existing as applicable for such a purpose (the hospital lists), has been alike insufficient in point of numbers, and unfit from its composition; inasmuch as, to obtain a comparable quotient, an inconstant number of total sick must be employed, from which it follows that, by the prevalence of any other local epidemic, or by mere chance in the admissions, the true relative frequency of pneumonia may be easily obscured; while, on the other hand, the hospital sick being obtained from variable fractions of the respective populations, do not represent with certainty its occurrence in the entire population. The course of any disease, in any given place, can only be made obvious by comparing the total number of cases with the total of the population existing at that time; this is only attainable by making use of the national mortality tables which have of late years been issued by various governments. Dr. Ziemssen, in making use of these, has collected a total of 376,800 fatal cases of pneumonia, occurring in 15 European towns, 2 European countries, 1 North American, and 1 North African town, during the period of 21 years, 1836 to 1856, inclusive, forming a total period of observation of 178 years; for the sake of comparison, a series of 7,000 pneumonic attacks (not deaths) has also been extracted from the same period. These valuable tables (which we omit) throw a certain amount of light on the following five questions:

I. The amount of fluctuation in mortality from pneumonia.

II. The relation of the amount of fluctuation in the mortality from pneumonia to that of other diseases.

III. The agreement and difference in the annual mortality from pneumonia during the 21 years, 1836 to 1856, in the different places.

IV. The type of oscillation in the mortality from pneumonia.

V. The parallelism of the curve of fluctuation of pneumonia with that of the curves of other diseases in the same period.

I. The mortality from pneumonia undergoes constant and considerable fluctuations, which vary, nevertheless, in each different place. To reduce these to a comparable mean, two computable conditions require to be considered.

(*a.*) The amount of the *extreme fluctuation*, *i. e.* the numerical difference between the highest and the lowest relative yearly loss of a population from pneumonia. To obtain this, the minimum mortality (Tab. I) is subtracted from the maximum, and the resulting cypher of extreme fluctuation is reduced to a per centage relative to the mean annual material; this per centage is then the comparable measure of the extreme fluctuation. Rejecting places where the observations have been carried on too short a time, and such as have too trifling an amount of population (Leith, Belfast, Limerick, Breslau), the others rise in the amount of their extreme fluctuation in the following order:

TABLE I.

Duration of the Observation in Years.	Place of Observation.	Mean Annual Material.	Maximum.	Minimum.	Extreme Fluctuat'n.	Measure of the Extreme Fluctuation.
11	All England, -	1.25	1.44	1.11	0.33	26.4 per cent.
5	Algiers, -	2.33	2.61	1.62	0.99	42.5 "
9	Hamburgh, -	2.17	2.56	1.60	0.96	44.2 "
9	Zürich, -	2.05	2.66	1.69	0.97	47.3 "
14	Paris, -	2.56	3.26	2.05	1.21	47.3 "
10	Boston, -	1.54	2.05	1.24	0.81	52.6 "
21	Berlin, -	1.14	1.46	0.86	0.60	52.7 "
4	Ghent, -	1.21	1.68	1.02	0.66	54.5 "
3	Edinburgh, -	1.42	1.75	0.89	0.86	60.6 "
17	London, -	1.69	2.12	0.96	1.16	68.6 "
10	Halle, -	2.29	3.41	1.47	1.94	84.7 "
9	Dublin, -	0.81	1.28	0.52	0.76	93.8 "
9	All Ireland, -	0.27	0.41	0.14	0.27	100.0 "
15	Copenhagen, -	1.73	2.56	0.71	1.85	106.9 "
9	Cork, -	0.46	0.78	0.28	0.50	108.7 "
Sum 155	Mean of totals, -	1.53	2.00	1.08	0.92	60.1 per cent.

In the towns and countries of the northern hemisphere, the variation in the annual mortality from pneumonia may thus exceed, on the average, the mean annual mortality from that cause by 3-5ths.

(*b.*) Of still more importance is the determination of the *mean fluctuation*, *i. e.* the mean difference between two following annual periods. It is obtained by adding together the successive differences (both increase and decrease) between each annual period of the given place of observation, dividing this sum by the number of these differences, and reducing the result to a per centage relative to the mean annual material. Excluding places where the duration of the observations has been less than nine years (Algiers, Ghent, Edinburgh, Leith, Breslau), the others follow in the following order:

	Mean Fluctuation.	Measure of the Mean Fluctuation.	For comparison (Measure of the Extreme Fluctuation).
All England,	0.08	7.0 per cent.	26.4
London,	0.22	12.8 "	68.6
Zürich,	0.26	13.0 "	47.3
All Ireland,	0.04	14.8 "	100.0
Paris,	0.38	15.2 "	47.3
Copenhagen,	0.27	15.8 "	106.9
Hamburgh,	0.42	19.5 "	44.2
Dublin,	0.17	20.6 "	93.8
Berlin,	0.23	20.6 "	52.7
Cork,	0.10	21.8 "	108.7
Boston,	0.37	24.2 "	52.6
Limerick,	0.17	28.3 "	163.3
Halle,	0.69	30.3 "	84.7
Mean of totals,	0.26	18.8 per cent.	

If we suppose, then, that the mean annual mortality from pneumonia in the temperate zone of the northern hemisphere amounts to = 100, each year may differ on the average by 19 from its predecessor or successor, *i. e.* the average variation from one year to another amounts to nearly 1-5th of the mean annual amount; 19 per cent. therefore, of the annual mortality from pneumonia in Europe is dependent on change of season.

Different places vary very much in this respect, the causes of pneumonia appearing to act twice as uniformly in England as in Ireland, while in Halle the dependence of its

mortality on season seems to be twice as great as in Paris, etc. The source of the increase in the mean fluctuation cannot with certainty be determined, and all the less so that the periods of observation are dissimilar, and do not always comprise the same seasons; still, the following provisional conclusions may be drawn:

1. The amount of the mean fluctuation in the mortality from pneumonia is an inverse relation to the circumference (density?) of the population. Thus, the three countries, England, Ireland and Canton Zürich, have a mean fluctuation of 11.6 per cent., the ten towns one of 20.9 per cent. The six larger European towns (London, Paris, Hamburgh, Copenhagen, Dublin) have a mean fluctuation of 17.4 per cent.; the four smaller towns (Halle, Cork, Limerick, Boston), one of 26.1 per cent. The countries have also always much less fluctuation than their contained towns—Ireland 14.S to Dublin 20.6; England with 7.0 to London with 12.8. General climate relations, particularly the difference between oceanic and continental climates, seem to have no influence on the amount of the mean fluctuation, as it is relatively the same for Zürich and London, Berlin and Dublin. The amount of the extreme fluctuation has no direct relation to the amount of the mean fluctuation. Places like Copenhagen may have little variation from year to year, and yet have extreme maxima and minima; while others, like Berlin, may vary very much from year to year, and yet have no remarkable extreme. The difference between the maximum and minimum mortality cannot, therefore, ever be an efficient measure of the amount of uniformity with which the causes of pneumonia act in any given place. There is nothing to give determinate support to any conjectures respecting the cause of these extreme fluctuations: Halle is relatively the same as Dublin; while Hamburgh and Copenhagen, and England and Ireland, differ widely, though lying near one another and having similar climatic conditions.

II. *The relation of the amount of fluctuation in mortality from pneumonia to that of other diseases* which are frequent sources of mortality, Dr. Z. has deduced from the mortality tables of London, obtaining the measure of the fluctuation in the manner already mentioned, after reducing the figures directly obtained to those having reference to 100,000 living—the period of observation comprises fifteen years, 1840—54:

	Mean an. Mortality in 100,000 living.	Mean Fluctuation.	Extreme Fluctuat'n.	Measure of Mean Fluctuation.	Measure of Extreme Fluctuation.
Phthisis, - -	3.23	0.14	1.39	4.5 per cent.	40.1 per cent.
Apoplexy, - -	0.52	0.04	0.18	6.7 "	34.5 "
Pneumonia, - -	1.70	0.23	1.16	13.7 "	68.2 "
Bronchitis, - -	1,15	0.25	1.81	22.0 "	158.0 "
Typhus, - -	0.95	0.22	0.98	22.9 "	103.6 "
Diarrhœa, - -	0.75	0.22	1.28	29.4 "	170.8 "
Hooping-cough, -	9.86	0.27	0.64	31.0 "	74.1 "
Measles, - -	0.57	0.24	0.87	41.7 "	151.8 "

From these figures, we see that though pneumonia is far from reaching the amount of fluctuation of such epidemic diseases as measles or hooping-cough, yet its fluctuations are very much greater than those of such diseases as phthisis and apoplexy, which arise from constitutional and general circumstances affecting vitality; pneumonia stands next to typhus, and is but little behind it in irregularity of occurrence.

III. By comparing the relative mortality from pneumonia in the different places, Dr. Z. has deduced the fact that pneumonia, in spite of many irregularities and apparent exceptions, passes through simultaneous waves of increase and decrease, in northern as well as in southern countries, in insular as well as in continental climates, in North America, Europe, North Africa, and the East Indies, and this so unmistakably, that we are led to consider these waves as dependent on general causes which move simultaneously over the entire northern hemisphere. This Dr. Z. fully illustrates, by entering minutely into the course of pneumonia in each of the twenty-one years, 1836—1856.

Further consideration of the *share taken in these oscillations by the different sexes and ages*, brings to light:

(*a.*) That the mortality among the female sex varies with the season, and that in so strikingly regular a manner, that, when transmuted into curves, the curve of mortality among females, from pneumonia, is almost perfectly concentric with the curve of general mortality from the same cause, showing that those influences which favor the origin of pneumonia act with peculiar intensity on the female sex.

(*b.*) Inasmuch as but few mortality tables class the fatal cases of pneumonia according to their ages, and the com-

parative use of these few facts is rendered more difficult by different classifications of the ages being made not only in different places, but in the same place in different seasons, so only an approximation on this head can be arrived at. From this it seems:

(1.) That the mortality from pneumonia in childhood is more liable to fluctuation than that of adults, in the proportion of 28 : 20 or 7 : 5.

(2.) The fluctuation in the mortality of both classes (children and adults) is not always parallel, *i. e.* pneumonia may rage in the one and not in the other; and this sometimes affords an explanation of a seeming irregularity in the course of pneumonia; for instance, in 1841, when the mortality from pneumonia was generally at its ebb, the curve of Hamburgh, as a sole exception, culminates. This was the effect of an entirely local epidemic of pneumonia amongst the children, of whom 22 per cent. above the annual average died, while, in unison with every other place, the mortality amongst the adults from the same cause was 17 per cent. below the average.

(3.) Fluctuations in the pneumonia of adults in the various places are tolerably parallel; on the contrary, infantile (0-10) pneumonia varies widely even in places socially and climatically related, such as Hamburgh and Copenhagen; and this epidemic occurrence of pneumonia within territorial limits, recalls similar movements in acknowledged contagious diseases, as measles and scarlatina, and can scarcely be explained by any of the known modifications of atmospheric influence.

IV. In regard to the *type of the pneumonia movement*, Dr. Z. considers himself justified in regarding it as irregular and not periodic; at the same time it is remarkably characteristic of pneumonia, one culmination point occurring in most places every third year. This peculiar oscillation in pneumonia gives the impression, that possibly each place may possess a determinate mean mortality from this cause, the ever varying annual mortality always, in shorter or longer recurring periods, bringing out this same endemic mean; for instance, in Berlin, there died of pneumonia, in twenty-one years, to 100,000 living:

In the quinquennium	1836–40,	1.13	In the 1st decennium,	1.14
" "	1841–45,	1.15		
" "	1846–50,	1.13	In the 2d decennium,	1.14
" sexennium	1851–56,	1.16		

But this impression is, of course, liable to be overset by many unforeseen possibilities.

V. A comparison of the mortality of other diseases with that of pneumonia leads to the conclusion that the curve of pneumonia is by no means concentric with that of other inflammatory diseases; on the contrary, that exquisite pneumonic years are characterized by a rarity of other inflammations, which, moreover, fluctuate but slightly. On the other hand, many pneumonic years are characterized by an unusual frequency in other diseases of the respiratory organs; and also many years in which pneumonia culminates in other places, but not in London,* are also those distinguished by increased affections of the respiratory organs, though at other times, as in 1843, this is not the case; in 1843, however, typhoid diseases were remarkably frequent. The curves of typhus and pneumonia are, moreover, remarkably parallel; and not only so, but years marked on the continent by increase of pneumonia, and not so in London, are those marked by an increase of typhus. This parallelism is the more remarkable, as hitherto these two diseases have been regarded as representatives of opposite and, to some extent, antagonistic morbific constitutions. From these facts, we gather that pneumonia will then be most frequent when influences predisposing to diseases of the lungs combine with others which dispose to typhus, of which a remarkable example is afforded by the prevalence of an almost double the previous mortality from pneumonia in Denmark and Ireland during the famine years 1845—49, when typhus, dysentery, intermittents, and scurvy raged.

In further investigating the oscillations in the mortality of pneumonia, month by month, Dr. Z. comes to the conclusion, that once or oftener in each year, a period of unusual excess alternates with one of deficit; and in the culminating years themselves, it is extremely rare that every or almost every month is above the average, and much more usually single months influence by their decided excess or deficit the entire amount of the annual mortality. These minor epidemics are wonderfully simultaneous in the various places, seem to be almost as frequent in summer and autumn as in winter and spring, but attain in the two latter quarters about thrice the extent they do in the two former ones.

Prager Vierteljahrschrift.

* In this comparison the mortality tables of London are alone made use of. Under the head "inflammations" are comprised cephalitis, pericarditis, laryngitis, pleuritis, hepatitis, peritonitis, gastritis, and enteritis; under that of diseases of the respiratory organs, pneumonia, tuberculosis, hooping-cough, and croup.

II. *The Influence of Marriage on Mortality in France.* By the Registrar General of Great Britain.

A PAPER was read by Dr. William Farr at the Liverpool congress of social science, on the influence of marriage on the health of the French population, in which several facts were presented of the highest interest, proving that marriage is the unit of the social state—in other words, favorable alike to health and longevity. As we have no statistics from which to treat this great question in relation to English lives, the facts presented in reference to France have a peculiar interest, and will not fail to command attention in this country. We refer to the analysis presented by Dr. Farr, not as giving a substitute for this kind of information as to our own country; but in the hope that we shall not always be left destitute of similar returns, through the important department of the public service with which the author of the paper is connected.

The facts and figures now given for the first time are based on returns extending over the whole of France, and among all classes of the people, thus exceeding greatly in value any thing ever before produced by writers of that country, who have directed their studies to the relative value of single and married life. It will be remembered that Deparcieux, in the middle of the last century, investigated the relative mortality of monks and nuns in France, contrasting their lives with those of Tontine annuitants, consisting partly of married, and partly of unmarried. His enquiry was thus limited as to area and classes, instead of being, as now, extended over all persons in all parts of France. The result he obtained was, that from the age of 20 to 40, the mortality of the *religieux* was low, and after the age of 40 it was high, as compared with the rate of mortality among the Tontine annuitants. The statistics now furnished give us the effect of the conjugal condition on the life of the whole population, minors, of course, being excluded.

In reference to the conjugal relation, the more than thirty-six millions included in the French census of 1851 are divided into three classes:

1. The married—consisting of 6,986,223 husbands, and 6,948,823 wives = 13,935,046 married persons.

2. The celibates, or persons who never married—bachelors, 4,014,105, and spinsters, 4,549,944 = 8,564,049.

3. The widowed—widowers, 836,509; widows, 1,687,583 = 2,524,092.

Dealing then with these nearly fourteen millions of married persons, the author notices, first, the case of husbands and wives under the age of 20, marriage being legal in France for men at 18, and women at 15. In this early age the mortality was excessive. Twice as many wives died under the age of 20 as died in the same number of unmarried women; while the mortality was also found to be much higher among married than the unmarried men. Among the married women, the rate of mortality was 14.0 in 1,000, and among the spinsters it was only 8.0. Among the married men it was 29.0 in 1000, and among the unmarried it was 7.0. This result confirms the opinion of the evil consequences in many cases of marriage under the age of 20, before the growth of the individual man or woman is completed.

In the next twenty years, 20—40 wives show a rate of mortality half as high again as husbands; the mortality of wives from 20—30 being at the rate of 9.3 in 1000, and from 30—40 at the rate of 9.1, while the mortality of husbands is 6.5 in the first interval, and 7.1 in the second. The excess on the female side is obviously ascribable to the perils of child-bearing, aggravated by unskillful female assistance. From 40—50 the mortality of husbands (18.3) is slightly higher than that of wives, and continues higher in the subsequent ages, though the difference in favor of wives is not considerable, as will be seen in the following table:

Age.	Husbands.	Wives.
50—60	18.3	16.3
60—70	35.4	35.4
70—80	88.6	84.9
80—90	183.6	180.4

Turning now to the celibates. It has already been observed at the younger ages, under 20, that the rate of mortality is lower in both the sexes than among the married, being in males 6.0, and in females 7.1 in 1000.

Taking the ages from 20—60, unmarried men show a much higher rate of mortality than unmarried women; being in the first ten years (20—30) in the ratio of 11.3 to 8.7. This excess is partly attributable to deaths in Algeria, and in the *casernes* at home; but these elements do not interfere in subsequent stages to any considerable extent. From 30—40 deaths among men were 12.4, among women 10.3. From 40—50, men 17.7; women 13.8. From 50—60, men 29.5; women 23.5. From 60 upwards, the rate of mortality was nearly equal in the sexes.

Comparing the married with the unmarried it is found that between the ages of 20 and 25, maidens have the advantage, the difference being considerable. Of 1000 females the annual deaths among the married were 9.8, and among the unmarried 8.5. At the ages of from 25—30 the mortality of the unmarried is slightly in excess, being 9.2 to 9.0. At the ages 30—40 the mortality of wives was 9.1, while that of unmarried women was 10.3. After the age of 40 married women show a much lower rate of mortality than the unmarried, the rates being from 40—50 married, 10.0; unmarried 13.8. From 50—60, married 16.3; unmarried 23.5; and from 60 upwards, married 35.4; unmarried 49.8.

The contrast between the bachelors and married men is very remarkable, in the earlier ages being in favor of bachelors, and the more advanced against them.

The widowed are found to have a higher rate of mortality than the celibate, who it has been shown have a greater mortality than the married. At all the ages under 40 the mortality of widows is higher than the mortality of unmarried women, while at the earlier ages the rate is double. Advancing from the age of 40 the mortality of widows is lower than that of spinsters, and at all ages the mortality of widows is greater than that of wives. Among widowers it is found that there is a heavy rate of mortality under the age of 30, and even under 40, while afterwards they die more rapidly than not only the husbands, but even the bachelors.

Thus it results from this novel enquiry that marriage is a healthy state, the single being in danger of wreck, where those united in matrimony often survive the storm.

III. *Death quickly produced by the Inhalation of two Drachms of Chloroform, in the first stage of Natural Labor, in Scotland.* By Robert Lee, M. D., F. R. S. Obstetric Physician to St. George's Hospital.

During the night of the 10th ult., while attending a lady in labor, a relative of whom was a warm advocate for the use of chloroform, the husband informed me that a fatal case had just occurred in Ayrshire, close to the residence of his brother, and that Mrs. B. had been attended by Dr. Campbell of Largs. I immediately wrote to Dr. Campbell, and

received from him the following most satisfactory and polite answer. A few weeks only have elapsed since it was publicly denied that any case of death from chloroform during labor had ever occurred in Scotland:

"LARGS, *Ayrshire*, Oct. 27, 1858.

DEAR SIR—I had the pleasure of receiving your note of the 23d inst. yesterday morning. I had been in the habit of attending Mrs.—— since January 1850. She lived at Wemyss Bay, a distance of upwards of six miles from Largs. Mrs. —— was then pregnant for the first time. During the whole of February she had repeated attacks of hemorrhage from placenta prævia. On the 2nd of March, labor came on, accompanied with hemorrhage, and as soon as the os was sufficiently dilated, I put her under chloroform, and delivered her by turning. This was most successfully performed so far as the patient was concerned, but the baby was still-born. Since that period she has been six times pregnant, and she had chloroform at each of her confinements; at least I am told so, for at two of these labors I did not arrive in time to witness delivery.

It is not my practice to give chloroform in natural, easy labors. I think it justifiable only in cases of unusual suffering, or where painful manual assistance is necessary: but Mrs. —— having experienced the comfort of exemption from pain, and no unpleasant result from the use of it, insisted on having chloroform and her husband would give it. When I was present I took care that it was sparingly and cautiously given, and, as it happened, always with a satisfactory result.

On the occasion of her last and fatal labor, I understood I was to be called as usual; but for some reason not very satisfactorily explained, I was not sent for. I had made a friendly call for her on the 15th September, and found her pretty well and in good spirits. Her time was then up; and her nurse, who is a midwife of considerable experience, had been with her from the 4th. On the morning of the 20th I had occasion to go to Wemyss bay to visit a patient, and I landed at the pier at ten minutes past eight A. M. I was met by a servant of Mrs. ——, who told me that she was alarmingly ill, and begged me to go to her without delay. I went directly, *and you may guess my horror when I found her stretched lifeless on the bed!* She had been dead about ten minutes: I spent about half an hour in fruitless attempts at reanimation. I was told that she had begun to complain at two o'clock, and had been moving about and very cheerful all the morning. About twenty minutes to eight expulsive

pains came on, when she called for chloroform; on giving it probably for the fourth time, *she threw herself violently back, gave a gasp or two; a slight gurgle was heard in her throat, and respiration and the pulse instantly ceased.*

The head was resting on the perineum. If I had had forceps at hand I might have brought away the child easily; but, as a matter of course, the cry was, 'can nothing be done to save the mother?' and after these attempts it was useless to effect delivery. The quantity of chloroform given in all probability did not exceed two drachms. The bottle from which it was taken could not have held more than an additional half ounce, and it was not full when Mr. —— began to administer it.

I applied for a post-mortem examination, but it was declined.

Mrs. B. was a tall, thin person, who always during the married life was in delicate health. I was not acquainted with her before her marriage. She suffered from indigestion, and was unable to take any considerable amount of exercise; nor could she nurse any of her children. In July last she had a feverish attack, and a decided threatening of premature labor, accompanied with some sanguineous discharge, and from that time her pulse was always unnaturally full and frequent.

If I do not ask too great a favor, it would oblige me if you would favor me with any remarks or suggestions which occur to you relative to this distressing case, and also your opinion on the propriety of using chloroform in the practice of midwifery.

I am, &c.

JOHN CAMPBELL.

P. S. The chloroform was given on a common muslin handkerchief.—J. C."

IV. *Death quickly produced without the Inhalation of Chloroform, in the First Stage of Natural Labor.* By JAMES H. AVELING, M. D., M. R. C. S. L., Honorary Member of the Obstetric Societies of Dublin and Edinburgh.

HAVING heard that an old patient of mine had died suddenly during labor at Charlton Brook, in the parish of Ecclesfield, where I was in practice three years ago, I this morning drove over and learnt the following particulars:

"My name is Mary K——: I was in the room at the death of Mrs. Ann G——. She sent for me about five o'clock in the evening, and told me she had felt 'crotchety' all day. She was at her full time. I thought the pains sufficiently bad to advise her to send for her doctor. The surgeon came, and said it would not be over yet, and went away to see another patient. He returned between six and seven, and said she was still lingering. The pains seemed very severe, and Mrs. G. was very restless; sometimes she was on the bed, then on the chair, and then on her knees on the floor. She complained now and then of difficulty of breathing, and made a noise like 'croup.' She also felt faint, and had some gruel and brandy. About two o'clock in the morning the surgeon and husband were suddenly summoned up stairs, and the latter had only time to put his arm round Mrs. G., who was upon the floor, to support her, when 'she shot out her legs,' and fell back gasping, and died instantly."

Had I been still living in Ecclesfield, I should have had this patient to attend; and as I am a great advocate for the administration of chloroform in labor, I should in all probability have given it in this case. Had I done so, and death had still occurred, chloroform would have been set down as the cause, and Dr. Lee would have had the opportunity of recording the history of a case in which death was quickly produced by the inhalation of chloroform, etc. in England. Neither in this nor in the case which took place in Scotland was any examination of the body made; and how without this it was found possible in the latter case to attribute with certainty the cause of death to chloroform, seems rather obscure.

It is not, however, for me here to enter upon what are or may have been the causes of sudden death in labor. My only wish is to place the case of Mrs. G. on record just now, because of its similarity to the one communicated by Dr. Lee, and also to allay in the minds of those practitioners who have taken fright at Dr. Lee's case, any fear they may have in giving chloroform for the future in labor.

I am so convinced from considerable experience, that women who have taken chloroform during parturition recover so very much better and faster than those who have not, that I should be very sorry to see its administration diminished in frequency, and its beneficial effects unnecessarily curtailed by a case in which the cause of death has been, without due examination, attributed to chloroform.

I should have been glad to have given a more professional

account of the case of Mrs. G.; but the surgeon who attended her is just now on the continent, and I have no opportunity of getting information from him.

V. *New Method of Treatment attempted in Croup by "Tubage" of the Larynx.* By Dr. Bouchut, Physician to the Hospital of St. Eugenie.

In a memoir on this subject read before the Imperial academy of medicine, September 14, 1858, Dr. Bouchut says:

It is seldom that a good idea remains entirely unproductive of others, whether towards extending its applications, or for perfecting those of them which are established as more useful; it is in this manner that one invention follows another, and that a series of subordinate improvements constitutes real progress. The laryngeal tube of Chaussier has thus been replaced by that of M. Depaul, or by the sound of M. Loiseau, and the ring thought of by this confrere has been seen to take the place of that of Diffenbach. At the present day, after so many attempts have been made towards the cure of croup by catheterism of the larynx, or by tracheotomy, I would submit, for the approval of the academy, a new method, with the same object in view, viz: the tubage of the glottis from the mouth—an operation without hemorrhage or danger, and calculated to fulfill the same indications as the others.

I have guarded against forming any hasty conclusion in this matter, as, in all innovations in therapeutics, a large number of facts are ever required before any justifiable conclusions, either favorable or otherwise, can be drawn from them; but, in the mean time, I would merely state my experience of a mode of treatment which I believe to be expedient and serviceable in practice, and which consists in the dilatation of the larynx by means of small rings or ferrules, "*viroles*," introduced and allowed to remain within the glottis, on asphyxia by croup being threatened: in this manner avoiding the operation of tracheotomy, as both difficult and dangerous—the mortality attaching to it varying from 80 to 90 per cent.

I have on two occasions already, at the Hospital St. Eugenie, in presence of my colleague M. Empis, and MM. Créquy, Paris, Mangin, Beaumetz, and Nivert, operated in

this manner in cases of well-marked croup with false membranes; but before entering into details regarding these cases, I would describe the form of the instruments employed. These instruments are:

1st. A curved male catheter, open at both extremities, and of different sizes—the use of which is to enter the larynx, and to serve as a guide for the "*virole.*"

2d. The *virole* or canula itself: this consists of a cylinder of silver from ½d to ¾ths of an inch in length, and a little wider at the upper than the lower end—the upper end being furnished with two ribs or hoops placed at a little distance, and having between them a little hole for the reception of a silk thread for retaining or removing the tube.

3d. There is a ferrule required for the protection of the fore finger from the teeth at the time of introducing the "virole."

Before attempting the use of these instruments in the living subject, I made some experiments on the dead body, in order to ascertain their applicability. My colleagues and pupils found that, on carrying the finger over the epiglottis, they could easily introduce the canula into the larynx, and that there was some difficulty of removing it when it was suitably placed there. We assured ourselves that the canula disappeared completely into the larynx; that its superior border was under the superior vocal cord in the ventricles of the larynx, and that the play of the epiglottis and arytenoid cartilages was unimpeded; and that the inferior vocal cord lay between the two ribs on the canula, and consequently was above the lowest rib corresponding to the internal surfuce of the cricoid cartilage.

Accordingly, M. Empis and myself agreed to take the first opportunity which presented for testing this tubage of the glottis on the living subject. Nor had we long to wait, as at that time a severe epidemic of croup prevailed in Paris; so much so, that during the month of August fifteen fatal cases occurred in the hospital of St. Eugenie, and we had thus more opportunities of experiment than we could desire. The next day after our experiments on the dead body, a little girl laboring under diphtheritic croup, and nearly asphyxiated, was brought to the hospital. I introduced a canula into the larynx by the mouth, according to the method I have described, confident that, should the asphyxia continue, there would always be time to open a passage for the entrance of air by tracheotomy. The canula remained in its place for 36 hours without giving rise to any symptoms of suffocation, or impeding the functions of the epiglottis; and

the indications of asphyxia, such as lividity, unconsciousness, etc., gave way to natural respiration, a return of sensibility, and the natural rosy tint of the skin.

The larynx had evidently been relieved of the obstruction occasioned by false membranes. Unhappily, however, the diphtheritis existed in the nose, the ears, and on the surface of an old vesication induced for the relief of an habitual bronchitic attack of the child. The diphtheritic poisoning, however (empoisonnement diphthéritique), rapidly increased, and, in conjunction with lobular pneumonia of the right lung, supervening on the night of the tubage of the glottis, occasioned the death of the patient. The croup was cured, and the employment of the canula had produced all the effects intended in the use of such an instrument: it had averted asphyxia, and rendered unnecessary the performance of a serious operation like tracheotomy, which the circumstances of the case would have rendered unavailing.

The second case was that of a boy three and a half years old, affected with diphtheritic croup, and commencing to be asphyxiated. The respiration was rough, blowing and dry; the cough feeble and hoarse; the voice was completely gone; the countenance animated, red and congested; sensibility was well marked; there was considerable agitation, but no attacks of suffocation. I introduced the canula into the larynx, at the second attempt, with facility, in less than two or three minutes.

There was now no threatening of suffocation, and the infant could speak in a louder voice than before the tubage, and it could drink without the fluid entering the air passages. Some tubular false membranes from the trachea and bronchi were expelled through the canula, without its dislodgment by the effort of coughing. The instrument had remained 40 hours in its place without becoming obstructed, and was to have been changed at the visit hour. About this time symptoms of suffocation and asphyxia, obviated for two days by the canula, began to appear. I was absent; but MM. Créquy, Mangin, Beaumetz, and Nivert, *internes* of the hospital, concluded, from signs furnished by auscultation, that false membranes existed in the bronchi, and which consequently formed a considerable obstacle farther down than the glottis. They regarded death as imminent, although as yet no insensibility had shown itself; and tracheotomy was accordingly performed. By the opening thus made, a small bronchial false membrane escaped—smaller than those already expelled through the canula; and these gentlemen could make out that the canula was not obstructed, and

still remained in its place, steadied by the inferior vocal cord.

Such is the history of these two cases in detail, and the manner in which each successive symptom manifested itself hour after hour, with the effects of tubage of the glottis. As I stated at the commencement, I form no conclusion from them, but merely relate the facts. These appear to have established:

1st. The facility with which the canula may be introduced and retained with the larynx.

2d. The tolerance of the canula by the larynx.

3d. The possibility of relief being afforded in croup, etc. by this means, without tracheotomy.

4th. The facility with which false membranes are expelled through the canula.

5th. The utility of such a measure as a resource for those surgeons who may happen to be placed where circumstances prevent their performing any other operation.

L'Union Médicale.

CHRONICLE OF MEDICAL SCIENCE.

PHYSIOLOGY.

1. *Physiology of the Liver.* By Dr. Mosler. (Journal de Physiologie.)

The author has lately made experiments on dogs with artificial biliary fistulæ, to determine the influences of certain principles on the liver, when introduced into the blood. These substances were either mixed with the food, or injected into the veins of the animal's limbs. Those substances were chosen for experiment which are commonly used in medical practice, such as iodide of potassium, sulphate of quinine, nitrate of potass, etc. Moreover, he endeavored to ascertain if certain substances, such as calomel and turpentine, really possess the power over the liver which have been attributed to them. M. Mosler first ascertained

that in the dog, the bile in its normal condition contains no albumen; and that the albumen which has been found in it is derived from the exudations given off by the edges of the biliary fistula. Then also he found, that the presence of albumen in the bile may be artificially induced by the injection of water into the veins. He found that the albumen appeared in the bile two hours after injecting water into the crural vein. That the quantity of albumen was greatest in the bile five hours after the injection, and in the urine three hours. That all trace of albumen disappeared from the bile eight hours after the injection; but that the urine still contained an appreciable quantity ten hours after, and that the urine always contained more than the bile. M. Mosler found this fact to agree with clinical observations made by him, viz: that in cases of Bright's disease, the bile (analysed after death) contained no albumen.

Sugar.—The author ascertained that in the dog the bile normally contains no sugar, even when the animal has been restricted to an exclusively vegetable diet, or has absorbed a considerable quantity of grape sugar. It was not until from seventy to eighty grammes of the sugar had been injected into the blood, that the sugar could be found in the bile.

Cane sugar.—M. Bernard had already remarked that cane sugar passes much more readily than grape sugar into the urine, and M. Mosler has found the same fact true as regards the passage of cane sugar into the bile. After the injection of five or ten grammes of cane sugar, he found it present in the urine, but not in the bile; but after further injections of twenty-five to forty grammes of the cane sugar, he found it present both in the bile and in the urine.

Iodide of potassium.—A gramme of this given to a dog with his food, gave to the bile no trace of iodine. Two grammes, however, gave a clear but passing manifestation of its presence. Thus the law presiding over the passage of iodine into the bile, appears to be the same as in the case of the mammary secretion.

Nitrate of potass.—Six grammes were given to a dog in solution; the urine contained a notable quantity, the bile none; ten grammes given solid in raw meat again yielded no trace in the bile. This negative result confirms the idea recently given by Buchheim, respecting the mode of action of nitrate of potass.

Sulphate of copper.—During three consecutive days sixty centig. of this salt in pills were given to dogs. The urine and bile examined the second day contained no trace of it; on the third day, the copper was found in the urine and in

the bile, and most abundantly in the bile. Here again Buchheim's views are confirmed. He found that the elimination of copper and other analogous metals (zinc, cadmium, etc.) took place rather through the bile than the urine.

Calomel was given to dogs in increasing doses; but the author was never able to ascertain the presence of mercury in the bile, nor even a notable increase of the biliary secretion. This fact seems to authorize us to refuse to calomel the special influence over the biliary secretion generally attributed to it; and weakens then the ideas which many medical men have in prescribing it.

Sulphate of quinine.—One gramme was given to dogs in nineteen hours; one gramme 25 centig. in eighteen hours, and three grammes twenty-five centig. in eight hours. In each case the urine contained quinine; but in no case was it found in the bile.

Benzoic acid was given in doses of four, six, eight grammes; each dose in two days. Hippuric acid only was found in the urine; but nothing abnormal in the bile. From these interesting experiments it would follow:

1. That water injected into the blood causes albumen to be present in the urine and in the bile; but more quickly and in greater quantity in the urine than in the bile.
2. That certain substances, such as sugar of milk and cane sugar, pass more readily from the blood by the urine than the bile.
3. That other substances—sulphate of copper, for instance—pass more readily by the urine than by the bile.
4. That nitrate of potass, sulphate of quinine, and benzoic acid, pass off both by the urine and the bile.
5. And that calomel does not pass off by the bile, nor increases its quantity.

2. *Elementary Structure of Nerves.*

"M. Jacubowicht (says M. Flourens) has been enabled to separate the elementary structures of the three orders of nerves in nervous substances prepared by chromic acid. He has shown that the nervous filaments of movement end at last in the stellate nerve cells; that the fusiform cells give off the nerves of sensation; and that the filaments of the great sympathetic proceed from oval cells. Since this demonstration there has been much discussion among anatomists as to whether these elements are or are not enveloped in membranes. M. Jacubowicht has decided the question.

When thin layers of nervous matter are soaked in an aqueous solution of carmine, the nervous elements are seen to take a rose tint in a very short space of time; and what is remarkable, is that the cells themselves become colored, but not the membrane which encloses them. Hence then its existence cannot be doubted. The same preparation applied to nervous filaments shows that they also are contained in a membrane. H. Jacubowicht has also discovered that the fusiform cells—the origin of nerves of sensibility—send small prolongations to the stellate cells of movement."

Acad. des Sciences.

3. *Mode of Growth and Increase of Muscular Fibre.*

M. Budge, by a new method of dissection, which consists in dissolving out the areolar tissue between the fibres, so that the muscular fibres alone remain, has been able to follow out the different conditions of their development in animals of different sizes. He has satisfied himself that the increase of muscles arises both from augmentation in thickness and in length of each existing fibre, and also from the formation of new fibres; and that under the influence of rest, or of absence of nutrition, the fibres diminish in volume, and that some of them disappear.—*Académie des Sciences.*

MEDICAL PATHOLOGY AND THERAPEUTICS.

1. *Remarks on Diphtheria.* By Richard Cammack, Jr.

This is a disease of recent growth in England, and has never been fully treated upon in books. The French have been accustomed to it many years, and call it diphthérite, from the Greek diphtheritis, or diphtherias—one clothed in skins, from diphthera, skin or leather. They have given it this name from its tendency to form false membranes over the part affected. But as croup, cynanche maligna, and scarlatina anginosa, have all the same disposition—viz: to effuse coagulable lymph, to slough, and to form and throw off deciduous deposit, I think the term is vague and not specific enough. It does not hit the nature of the disease.

From observing numerous cases, and tracing the mildest attacks to the most malignant, I have arrived at the conclusion that it is distinctly herpetic; and, therefore, would call it herpes malignum.

I have no doubt the disease has occurred in England, in isolated cases, from time to time; but its specific nature has never been discovered. I remember assisting at a post-mortem examination of a girl who died in University college hospital, under the care of Dr. A. T. Thomson. I never saw another case like that till now; and I feel certain that was diphthérite.

The pathology of diphtheria, then, rests with the French; and I have not seen that they fully agree.

Diphtheria comes on, in many instances, very suddenly, like cholera, and influenza, and erysipelas, without any warning symptoms; in others, there is soreness of the throat, like tonsillitis, or of the nares, like catarrh, or there is pain in deglutition, like pharyngitis, or cynanche maligna; shiverings are very irregular.

It varies in extent from simple herpes of the lips or nose, which are covered with vesicles which burst, ulcerate, and heal in two or three days, to the most extensive inflammation, and sloughing, and ulceration of the cheek, the palate, and the pharynx; and more in children than adults. It extends into the larynx and trachea, and kills by asphyxia.

In the mildest form there is a tendency to ulceration beneath a white, loosely-attached membrane, which consists of epithelium coagulated with viscid mucus and lymph. In worse cases its vesicular nature can be distinctly traced for a few hours after its commencement, from the large patch within the cheek or upon the gum, which will slough like cancrum oris, to the more diffused bullæ upon the soft patch and pharynx. I believe that in some instances it extends to the gullet and stomach.

The specific cause is atmospheric—as in typhus, in cholera, in influenza, and potato rot. Debility, cesspools, malaria, and all nuisances predispose to it; and irregularities of regimen, cold drink when heated, sudden changes of temperature, and over-exertion, are exciting causes. And as all these produce debility, so is the disease itself adynamic. Patients who have recovered from a mild attack complain of weakness many days after.

The principles of treatment are antiseptic and tonic, stimulating and nutritious. The capillary system should not be engorged with fluids; neither should any thing evapo-

rating be applied to the skin; the latter is an exciting cause, and the former prevent the distended capillaries recovering their tone. Blisters inflame and ulcerate; leeches debilitate and their bites slough; and strong purgatives cannot be borne.

Diphtheria was epidemic in this district last year in November and December, has been so again since last July, and is still prevalent. Deaths have been numerous in the adjoining districts, as many as five having died in one house. Numerous cases fell to my care last autumn, and three children died of croupal symptoms. Since then all have recovered, and I attribute their recovery to the plan of treatment which I beg to subscribe.

Treatment.—1. A temperate, dry, well-ventilated room as can be obtained, no one being allowed to sleep in it except an attendant. Crowded bed-rooms and animal effluvia are an exciting cause.

2. A calomel purgative, varying in strength according to the age and size of the patient; and in children, where symptoms of laryngitis appear, a rapid exhibition of the chloride of mercury, such as a grain to two grains every hour till the breathing is easier, and then every three or four hours, till the false membranes are loosened, and the bowels evacuate green stools, or vomiting. Care is needed not to carry the mineral too far, but it can be borne in proportion to the strength of the patient and the sthenic form of the attack. Children who have been healthy, and are teething, have most inflammatory symptoms.

3. The decoction of cinchona with hydrochloric acid, varying the dose of the latter from one minim to ten every four hours, in from a teaspoonful to two tablespoonfuls of the former.

4. Gargle with chloride of sodium and vinegar, a tablespoonful of each in a teacupful of hot water; also inject this up the nostrils when they are becoming obstructed. This excels all other gargles; it relieves the breathing and the fœtor, and causes the ulcers to heal.

5. Apply the stick of nitrate of silver to every part where false membrane or exudation can be seen. By means of Dr. R. Quain's tongue depressor, one can see far and wide; but when the patient will not submit to this, and when the disease spreads beyond the reach of the caustic case, a probang and a clean sponge well saturated with a strong solution of nitrate of silver will answer.

6. Rub the external fauces with compound iodine ointment night and morning; and when erysipelas may appear,

apply the stick, and lay on a plaster of strong mercury ointment.

7. Keep the room and all else sweet and clean.

8. A nutritious diet is necessary. A little mutton every day; boiled milk, rich gruels, and beef tea, with hot port wine and water (half wine, with sugar and lemon), for all above ten years; and warm milk and water for minors. All things should be taken warm. Cold drinks are an exciting cause.

The disease is not infectious, except, perhaps, under extraordinary circumstances.

I could illustrate these remarks with a few cases of different intensity; but I fear to encroach upon your space.

2. *Diphtheritis: The Epidemic Malignant Sore Throat prevailing in Albany, N. Y.*

[We are indebted to the correspondent who has furnished us with the following discussion upon the severe epidemic now prevailing in Albany, which embraces the remarks of several distinguished physicians of that city, who have witnessed its characteristics. We shall be pleased to have a more detailed account of some of the cases.—*Eds. Monthly.*]

The Albany Co. medical society had a special meeting on Tuesday, Nov. 16, 1858, to discuss the epidemic now prevailing in Albany, N. Y. There was a large attendance of the city and county physicians, and a number from the neighboring cities and villages, among whom were Drs. Bontecou and Brinsmade, of Troy—the latter, the accomplished president of the State medical society. The president, Dr. S. D. Willard, was in the chair. The discussion was opened by Dr. Vanderpool of Albany, who gave a clear and succinct account of the prevailing epidemic, as seen in his practice. His description of the disease accorded in every particular with Wood's "pseudo-membranous inflammation of the fauces diphtheritis."—Practice, 3d ed., vol. i., p. 521, et seqr. His practice was simple: an emetic to cleanse the stomach and fauces of vitiated secretions, gargles of dilute vinegar, and the mineral acids and tonics very early in the disease to counteract the tendency to the typhoid condition. He had met with but few fatal cases, and in every instance the disease had implicated the larynx, trachea, and bronchiæ, and the patients had died as in true croup. He had benefited and doubtless saved many by removing the

vitiated secretions from the fauces and nares with sponges, a feather or a camel's hair pencil, and the early and persistent use of tonics, stimulants, and nutrients.

Prof. Townsend followed with a translation and rescript from the latest French journals on diphtherite. The paper was elaborate, and contained much valuable information, especially in reference to the use of chlorates of potassa and sodium as gargles, and the use of a silver tube, bent, and introduced into the larynx through the glottis. After the reading of the paper the discussion became general. Dr. Delamater had had 40 cases, 4 fatal, with 4 post-mortems. The larynx, trachea and bronchiæ were found lined with a diphtheritic exudation, readily separated from the mucous membrane, which was found entire except upon the tonsils, which were excavated, enlarged and much congested. The secretions were copious, offensive, and very acrid. In one fatal case gangrene of the uvula had taken place. Dr. Freeman mentioned a case where the entire epiglottis was coughed up a few hours before the patient, a young man, died of gangrene of the entire pharynx. Dr. Harris mentioned one case in which the entire palate and a portion of the arch on one side was removed with the forceps. The patient, a young man, died a few hours after, in a typhoid condition. Dr. James McNaught, the Nestor of the profession in Albany, narrated the particulars of a large number of cases which he had seen in consultation, where gangrene of the tonsils, uvula, palatine arches, pharynx and glottis had taken place. He raised the question of its relation to scarlatina, and enquired if any cases of the latter disease had been observed in the city. But few cases had been treated during the last four months. Cases were reported of the epidemic sore throat occurring in patients who had had scarlatina a few months previous.

Dr. McN. had noticed an amelioration of the disease during the past few weeks, and also spoke of the fact that adults were now the subjects of the disease which had previously confined its ravages to children. Males were more subject to attacks than females. No mention was made of a second attack in the same patient. The disease is less malignant than at first, but is still serious, as the mildest cases are liable to lapse into a malignant and typhoid state.

Dr. Brinsmade of Troy, is endeavoring to procure an account of the disease, accompanied by statistics, post-mortem appearances, &c., and will doubtless receive the hearty cooperation of the profession of Albany.

The discussion was animated and very able, placing the experience of the various participants within the reach of every member of the society.—*Am. Med. Monthly.*

3. *Consumption and Ague.*

Dr. Peacock read a paper before the Hunterian society, on the "supposed antagonism of consumption and ague."

After briefly alluding to the views of previous writers on the subject, and especially to those of Dr. Wells and M. Boudin, he gave the results of an investigation of the relative mortality from phthisis and malarious affections, including ague and remittive fever, in certain districts of Cambridgeshire, Huntingdonshire, Northamptonshire and Bedfordshire, bordering on the Wash and the rivers Mere and Ouse, derived from statistics collected in the registrar general's office, and extending over the years 1851 to 1855, inclusive. From this investigation it appeared that generally in the districts in which there was the largest mortality from aguish affections, phthisis was also the more fatal, and vice versâ; yet that to this inference there were so many and such marked exceptions, that the rule could in no degree be regarded as decided. He then detailed the particulars of six cases in which the two diseases coexisted, and alluded to three others of a similar character, and especially dwelt upon two of the cases in which the patients not only had both ague and phthisis when under his care, but stated that they had had attacks of ague prior to the appearance of the phthisical symptoms, and had throughout the time resided in the aguish districts. The inference which he drew from the whole of his observations was, that the influence, if any, exerted on the prevalence of phthisis by malarious atmosphere or by ague, was of far less importance than that of other causes which affect the development of that disease. Dr. Peacock concluded by remarking that, as phthisical patients may take ague, and as the disease is greatly aggravated by such complications, we should, in selecting residences for consumptive persons, avoid the districts which are marshy or in which ague is known to prevail.

4. *Leucorrhœa.* By M. Caby.

M. Caby announces that blennorrhagia and leucorrhœa disappear rapidly in men and women under the influence of

injections of nitrate of bismuth, provided only that the discharges are of a chronic nature, and have lost all their inflammatory characters. The injection for the male urethra is composed of 30 parts by weight of subnitrate of bismuth with 200 parts of rose water; it is to be used three times a day, well shaken. After each injection the patient should remain as long as possible without urinating. In balanitis and vaginal leucorrhœa, the powder is sprinkled over the parts, which have been previously well wiped, and then covered with charpie.

5. *Epilepsy.*

Van der Kolk considers that epileptics are divisible into two classes, viz: those who bite the tongue during the attack, and those who seldom or never do this. Now he has found that in the first class, the capillary vessels of the corpus olivarium are widened in the course of the hypoglossal nerve; and that, in the second, they are enlarged in the tract of the vagus, which may account for more labored respiration in those who do not bite the tongue. The walls of the enlarged vessels become thickened, exudation occurs, together with softening of the substance of the olivary body; so that he regards epilepsy as a reflex action from the ganglionic cells of the medulla oblongata.—*Ed. Monthly Jour.*

6. *Certain Symptom of "Bright's Disease."*

According to M. Beauvais, odorous matters are not eliminated from the kidney in Bright's disease. Thus asparagus, turpentine, etc. does not communicate any smell to the urine. M. Beauvais considers this to be a diagnostic sign, pathognomonic of Bright's disease.

7. "*Asthma* (says M. Trousseau) may replace gout, rheumatism, gravel, hæmorrhoids and skin diseases; and these diseases may replace asthma—they are all different expressions of the same diathesis. Asthma is a most fantastic disease: fantastic in its etiology; fantastic in its pathology; fantastic in its therapeutics. All which tends to show that it is essentially a nervous disorder."

SURGICAL PATHOLOGY AND OPERATIONS.

1. *On Diseases of the Breast.* By M. VELPEAU.

In presenting the second edition of his work on Diseases of the Breast to the Académie des Sciences, M. Velpeau observed that he had met with 807 cases in private and hospital practice, in addition to the 2,000 upon which the first edition was based; 200 occurring during each of the years 1854–7, with a surprising regularity. An analysis of these 807 cases (not taking into account a large number of cases which only appeared casually at the hospital consultations), shows them to consist of 407 cases of benign affections, and 400 cases of malignant disease or cancer. The 407 were thus distributed: Abscess, 116; hypertrophy, 121; adenoid, 130; neurosis, 40; = 407. Of the 400 cancers, the right breast was affected in 158, the left in 231, and both in 11. The ages were from 30 to 40 in 29; from 40 to 50 in 95; from 50 to 60 in 119; and from 60 to 70 in 49—the other patients being either younger or older. Among 163 cases, 60 were unmarried, 28 married and childless; 50 had borne but not suckled children, and 60 had suckled their children.

The above statistical account agrees with that already given in his first edition, in showing that the left breast is much more exposed to cancer than the right, and that it is an error to suppose cancer to be most frequent between the ages of 40 and 50, or that married women are alone liable to it. Another error is to attribute diseases of the breast to neglect of suckling; inasmuch as it is found that of 110 cases of cancer in women who had borne children, 60 occurred in those who had, and 50 in those who had not suckled. What has been said with respect to the influence of general health, the constitution, regimen, grief, emotions, disease of the heart, etc., is equally inexact. "I have met with cancer in the robust and sanguineous temperament, as well as in the debilitated and lymphatic; in tall, strong, dry subjects, as well as in those whose tissues were fat and soft; in the gay and careless, equally as in the delicate, nervous and sensitive. The resolute and calm are not more exempt than are the melancholy, irritable and restless. It is met with in rich and poor, in the well-conducted and temperate, as in those who commit every excess or undergo every privation. It spares women of no country."

In respect to histological researches, M. Velpeau observes:

"I have in this edition endeavored to examine carefully what modern micrographists have taught us; for at one time I too entertained the hope that the intimate nature of cancer would be unveiled through the intervention of the microscope. This now must be acknowledged to have been an illusion. By the aid of this precious instrument there have been discovered pathological products, elements, or principles, scarcely suspected before, and their molecular composition has been far more precisely exhibited; but the malignity of cancer remains none the less a deep mystery, just as impenetrable as regards its cause and its material reason as before."

M. Velpeau believes that his work indubitably proves:

1. That true, well characterised cancer left to itself or treated solely by pharmaceutical or hygienic appliances, is never cured and always kills—those practitioners who maintain the contrary being deceived or laboring under an illusion.

2. That we may cure radically and without relapse a certain number of true cancers by means of the knife, caustics, etc.—*Gazette Médicale.*

2. *Syphilis.—Curative Treatment by Vaccine Virus.*

M. Justin Lukomski, Lieutenant Captain of the Forestiers in the service of Russia, has just addressed to all the organs of the medical press a communication on the anti-syphilitic action of the vaccine virus. Syphilis, says the author, may be cured by vaccination; but in rare cases, when the disease is very mild and still more or less recent, is a single vaccination sufficient. Usually, several successive vaccinations, 5, 6, 8, 10, 12, are required; and ten or twelve punctures each time. The interval which M. Lukomski allows to elapse between two vaccinations is a week. The number of punctures at each vaccination necessarily depends on the quantity of virus at one's disposal; but there is reason to believe that the result is satisfactory in proportion to the number of punctures and the quantity of virus deposited. It must be added that success depends also on the freshness, the energy—in a word, the goodness of the vaccine matter. Under the influence of this agent, when it is effective, and well applied, all the symptoms of primary and constitutional syphilis soon disappear; urethritis and vaginitis, chancre, bubo, excrescences and vegetations, pustules, papulæ, and,

in general, all varieties of syphilitic eruptions. Of all these symptoms, excrescences and vegetations pass away the most quickly; pustules and papulæ are the last to disappear; in all cases, vaccination suffices without any auxiliary means of treatment, without internal or external remedies, without lotions or regimen. M. Lukomski acknowledges that the novelty of the method does not permit the surgeon to ascertain whether the syphilitic virus is entirely neutralized by this treatment, or whether the symptoms will reappear at a later period. Experience alone will decide this question; but what ought to induce a trial of this singular treatment just described is, that it has already rendered unquestionable services, and that it is not open to any of the reproaches with which syphilization has been assailed.—*Journal of Practical Medicine and Surgery—Am. Med. Monthly.*

3. *Summary of Remarks on Ozæna.* By Mr. Druit.

Ozæna is an accidental complication of any suppurating or ulcerative disease of the nose.

It is the tendency of muco pus to accumulate; and it is the tendency of the mucous membrane of the nose, if ulcerated, to exude flakes and clots of lymph or false membrane, which matters putrefy, and cause the smell.

If these putrefying substances be washed away, and the cavity kept clean, there can be no smell; and this process carried out, as I have described it, makes the patient at once more comfortable, and conduces to the radical cure of the ulcer, no matter what the first origin of that ulcer may have been. The requisite constitutional measures should, of course, be used at the discretion of the practitioner.

4. *Plastic Operation for Prolapsus Uteri—Permanence of Cure.*

As a contribution to the determination of the much vexed question, as to the permanency or otherwise of cures of prolapsus uteri by plastic perineal operations, we may just mention the case of a woman whom Mr. Baker Brown has recently had under care in St. Mary's, and which he has afforded many surgeons an opportunity of examining. The operation was performed a year ago, and prior to it she had suffered from prolapse of the entire womb. Since the restoration and extension of the perineum the woman has been pregnant, and her delivery at the full time of a large child

was recently accomplished without any material laceration. Due precautions were adopted afterwards, and the uterus is at the present time in its natural position. Many cases have of course been recorded, in which more than a year had passed without relapse, but the present one is especially valuable on account of the subsequent occurrence of pregnancy and delivery.

5. *Displacement of the Coccyx Sideways.* By Roeser.

"A corpulent woman, aged thirty-six, fell from a table on a chair, so that its back came right between her thighs. She instantly felt severe pain in the coccyx, but continued able to move about till evening, sitting increasing the pain very much. In the evening the pain was so great, extending up the spine, that she was obliged to go to bed, and soon after could neither turn nor rise up. After a painful night, R. found this otherwise blooming woman quite immovable, with distorted features; she complained of violent pain in the coccyx, and a painful tensive drawing feeling from below, up to the neck, which also extended down the arm. She could move the forearm a little. The slightest motion of the body or head to one side was impossible, and still more so sitting up in bed; confused headache and some mental disturbance, were also present. She made no complaints of her lower extremities, nor of her arms, and urinated without difficulty. After placing her on her right side, a small swelling, the size of a hazel nut, was felt near the notch of the buttocks next the left ischium, which, on closer examination, proved to be the coccyx separated from the sacrum, and forced from the mesian line towards the left ascending ramus of the ischium. The obtuse end of the sacrum could easily be felt between the buttocks. By placing one finger in the rectum the dislocation of the coccyx could be still more easily felt; forcible pressure downwards and towards the right buttock caused it suddenly to glide into its normal position, whereupon the patient declared herself relieved, as if roused from a dream, and all her pains vanished. She could move about freely; but pain in the sacro-coccygeal region prevented her sitting up; her expression was also completely changed. After a few days, a dull pain in the sacro-coccygeal region preventing sitting, was all the uneasiness that remained; and in five days, all of this that was left, was a slight burning sensation at the injured spot." The irritation of the spinal

marrow observed in this case, in which only the very lowest filaments could have been disturbed, and which, nevertheless, sent the stream of disturbance to the brain itself, is a most interesting example of mechanical irritation, as evidenced by its instant disappearance on the reduction of the dislocation.—*Betz. Memmorab. aus der Praxis.—Prag. Vtljschift.*

6. *The Results of Tracheotomy.*

The following statistics of the results of tracheotomy have been given by M. Bouchut—the names of the operators and the results of their operations:

	Patients.	Deaths.	Cures.
MM. Gosselin, - - -	23	23	0
Brochin, - - -	3	3	0
Follin, - - -	15	13	2
Broca, - - -	10	4	6
Depaul, - - -	7	6	1
Ad. Richard, - - -	12	10	2
Alph. Guérin, - - -	12	11	1
Michon, - - -	20	18	2
Deguise, - - -	12	12	0
Laugier, - - -	8	7	1
Velpeau, - - -	13	9	4
Huguier, - - -	8	8	0
Jarjavay, - - -	12	12	0
Faure, - - -	6	6	0
Auzias, - - -	2	1	1
Robert, - - -	21	18	3
Nélaton, - - -	36	33	3
Jobert de Lamballe, - -	60	50	10
Lenoir, - - -	20	9	1
Desormeaux, - - -	11	9	2
Monod, - - -	40	40	0

Three of these surgeons, he says, have declared that they will never perform the operation again, viz: MM. Jarjavay, Monod and Lenoir.

7. *Recovery after Rupture of the Uterus.*

A work-woman, 48 years old, in childbed with her sixth child, in the midst of pain screamed out and fainted. On recovering, she complained of a continued pain over the pubes passing through the abdomen and up to the stomach. M. Maes at once suspected rupture of the uterus and peri-

tonitis, and delivered the woman by the forceps. The child was dead, and after the placenta came away, a knuckle of intestine presented itself at the vulva. This M. Maes reduced, and found a rupture in the anterior portion of the womb. He retained his hand in the womb until contraction commenced, and then plugged it, in order to excite contractions and prevent the production of a hernia. Four days afterwards pain and fever had ceased, and in four weeks the woman returned to her ordinary labors. The commissioner who reported on this case considered the plugging bad and dangerous; it might have arrested the lochia, distended the uterus, and opened up the rupture.

Annales de la Soc. de Méd. de Gand.

8. *Calculi in the Hypertrophied Glands of the Palate.*

The Union Medicale relates two cases of young persons, sixteen and twenty-five years of age, who had for some time suffered from difficult breathing, nasal voice, difficult deglutition, and choking fits during sleep. On the velum palati two or three swellings from the size of a pea to that of a nut, were visible; a fine sound showed these to be formed by hard stony bodies, on the presumption that these were formed of carbonate of lime, and consequently easily changed by sulphuric acid into friable gypsum, a mixture composed of equal parts of ac. sulph. and water, was partly injected into the small opening of the swelling partly penciled over them. The result was gratifying; in a short time a gray friable mass escaped from the glands; the swellings were thus completely emptied, and the remaining cysts speedily regained their normal volume under the use of alum gargles.

Wien. Wochenschrift—und Prag. Vtljschift.

9. *Surgical Excerpts.*

Digital compression in aneurism.—M. Houzelot relates a case of aneurism of the radial artery, near the wrist joint, of which a cure was effected by digital compression of the brachial artery made at the bend of the elbow by the patient himself. The compression was only made for six or eight hours during each day, and the cure was accomplished in two and a half days, i. e. by about eighteen or twenty hours' compression altogether. M. Chassaignac, while acknowledging this to be an aneurism, observed that not unfre-

quently cysts occurring at this part are mistaken for aneurismal tumors.—*Gaz. des Hôp.*

Lithotrity, M. Nélaton tells us, was known to Albucasis, who indicates the possibility of breaking stones in the bladder, in these words: "Accipiatur instrumentum subtile-quod nominatur mashaba rebilia et suaviter intromittatur in virgam et volve lapidem in medio vesicæ, et si fuerit mollis frangitur et exibit, si vero non exiverit . . . oportet incidi ut chirurgia determinatur."

Tracheotomy.—"In this operation (says M. Trousseau) you must always proceed gently. M. Richet, a most skillful surgeon, a short time ago, in tracheotomizing a little child, was obliged to cut an artery as large as the radial before he could get into the trachea; the artery was an anomalous anastamosis of the two inferior thyroid arteries. Once I found under my scalpel the left carotid artery, which arose from the innominata, and crossed the trachea. These are serious arguments against the mode of operating, which consists in seizing the cricoid cartilage or the larynx, by means of hooks or tenacula, through the skin, and cutting with one stroke into the trachea. This rapid method is full of danger. M. Bérard, who practiced it, found his way into the œsophagus."

Tubage of the larynx.—M. Crèquy reports a case of croup, in which this operation was performed by M. Bouchut, its patron. He says, that he thinks the tubage advanced the asphyxia; the tube acts just like a tight ring on the finger, and creates a congestion around it and above it; a swelling is thus formed, which acts like a valve to the tube.

THERAPEUTICAL RECORD.

Arnica cerate.—N. Hynson Jennings (Journal of Maryland College of Pharmacy) prepares a plaster, or hard cerate of arnica, in the following way: Take of arnica flowers, four ounces; olive oil, six ounces; beeswax, ten ounces; diluted alcohol, sulph. ether, of each a sufficient quantity. Having reduced the flowers to a tolerably fine powder, moisten with diluted alcohol and pack firmly in a glass funnel; exhaust,

and, by means of a water bath, evaporate to about five fluid ounces, and mix with the oil and wax, previously heated together; then boil over a slow fire till all moisture is dissipated, and lastly strain. A little ether is required to dissolve the resin deposited on the sides of a porcelain dish.

He states that it has been found to afford great relief in tenderness of the feet, produced by exposure to intense cold.—*Peninsular Journal.*

Chromic acid in syphilitic vegetations.—M. Hairion, after describing the advantages derivable from the chromic acid in certain forms of the granular eyelid (a disease of common occurrence in the Belgian army), observes that the trials he has made of the acid, as recommended by Marshall and Heller in syphilitic vegetation, have been attended with the most complete and rapid success. Moreover, its application, whether to these syphilitic vegetations or to the fungous granulations of the conjunctiva, is never attended with pain or reaction, notwithstanding the rapid destruction of tissue that takes place.—*Annales d' Occulistique.*

Cold applications and sulphate of copper in croup.—Dr. Pudon relates some cases as examples of the great benefit he has derived from the continuous application of cold wet compresses to the neck simultaneously with the administration of sulphate of copper in two-grain doses every half hour; sixty-four grains having been given in one case and seventy in another.—*Journal fur Kinderkrank.*

Collodion in herpes zona.—Professor Fenger has of late been treating this troublesome affection advantageously by collodion, smearing it by means of a pencil over the whole of the vesicles, their bases and their circumference, or wherever there is redness. It should be applied as early as possible, and three layers in thickness, renewing it next day. He finds the addition of castor oil to the collodion an improvement; but especially prefers the solution of cotton wool in acetic ether.—*Schmidt's Jahrb.*

Extemporaneous chlorine solution.—A preparation of chlorine can be readily prepared, as follows: ℞ Common salt, twenty-four parts; red lead, one part; sulphuric acid, twenty-four parts; cold water, one hundred parts. Mix the red lead with the salt, and introduce into a vessel containing the water. The acid is then gradually added, stirring at intervals. By this process, sulphate of lead is first formed and precipitated,

and sulphate of soda and chlorine remain in solution; the latter gives the liquid a yellow color, and is gradually disengaged from the surface of it. For disinfecting purposes, it should be poured into shallow plates. It is cheaper than chloride of lime, and more convenient.

We have recently had this solution recommended by Mr. Hagan, a pharmaceutist of Troy, N. Y., as an admirable means of bleaching sponges, a single immersion in it for a few moments rendering white the coarsest or finest sponges, without materially injuring their durability.

Peninsular Journal.

Hydrate of quinine.—The Gazette Hebdomadaire of June 11th states that, at the meeting of the Academy of sciences, M. Schutzenberger read a paper on some new derivatives from quinine and cinchonine, as follows:

While the disengagement of nascent hydrogen is going on through the agency of zinc and sulphuric acid in which sulphate of quinine has been dissolved, when near the end of the elimination of the gas, if an excess of ammonia be added to precipitate the salts, the oxide of zinc immediately falls, after which, in a short time, there is also deposited the new derivative from the quinine, in the form of a tenacious, viscid moss. This is separated from the solution, and redissolved in alcohol, and filtered, which removes a small quantity of oxide of zinc. This solution evaporated, the residuum becomes transparent and resinous, having a slight green tinge, and presents its boric properties in a marked and full degree. It is the true hydrate of quinine, and has the following formula: C^{40} H^{24} Az^2, $4H^0$.—*Pacific Med. and Surg. Journal.*

Iodine in ague.—M. Barilleau has cured thirty-seven out of forty cases of ague, in which he has tried the tincture of iodine. He continued its use for several days, giving ten drops as a dose in infusion of chamomile.—*Rev. Med.*

Vinegar in dropsy.—Dr. Beyer, a military practitioner at Breslau, treats almost all dropsies exclusively by wine-vinegar, giving a spoonful of the fluid every hour, and in the intervals water acidulated with it. Six ounces are consumed daily, and a complete cure may require from six to nine pounds. The appetite is increased rather than diminished during this treatment; and at first three or four stools per diem are produced, which augurs success. When, after a time, the patient becomes disgusted with the vinegar, lemon juice may be substituted.—*Ib.*

Application of cold in the vomiting of pregnancy.—M. Dezou has published three cases of obstinate vomiting in pregnancy, in which he has derived great advantage from the employment of a towel wet with cold water, wrung out, and applied as a compress to the pit of the stomach, renewing it every five minutes. The procedure will, however, be only found useful in purely nervous vomitings.—*Ib.*

New remedy for gout.—The Abeille Médicale mentions the oil expressed from horse-chestnuts as a specific for gout. The oil, well rubbed in, exerts at first a painful but a rapidly sedative, effect. Lint and oil-skin are then applied to the affected part. Evaporation is checked as much as possible, and perfect repose enjoined upon the patient. The treatment is said to be most successful.

Ointment of manganese—therapeutic effects.—In the Journal de Chemie Médicale, M. Hoppe states that after a long trial with the salts of manganese in the form of ointment, he gives them the preference, as a general remedy, to the ointment of iodine or its ordinary salts. In those cases where fibrous induration exists, in old glandular engorgements, and in cases of thickening and tenseness persistent after the cure of articular affections, it has answered the indications where the iodine has failed. Frictions with this ointment may be made to produce pustular eruptions on the parts, if desired. To obtain this effect we use the following recipe: Sulphate manganese, 120 grains; lard, 1 ounce. For a resolving agent, 60 grains to the ounce of lard is sufficient. The salt should be intimately mixed.—*Peninsular Journal.*

Subcarbonate of bismuth.—This preparation is strongly recommended by Prof. Hannon of the University of Brussels, as a substitute for the tri-nitrate of bismuth. The following are some of the advantages attributed to it: It is very soluble in the gastric juice, and its action is very prompt, without producing that sensation of weight in the stomach which often follows the tri-nitrate; hence it can be continued much longer than the latter preparation; its alkaline properties give it the great advantage of neutralizing the excess of acidity which so often exists in the stomach in the various forms of indigestion. It rarely causes constipation. Dose for adults, from ten to forty grains; for infants, from one to five grains.—*F. Stearns.*

Superphosphate of iron and lime.—At a meeting of the Me-

dical society of London, February 20th, Dr. Routh exhibited a new preparation of superphosphate of iron and lime. It was prepared by dissolving phosphate of iron and phosphate of lime in equal proportions in hot metaphosphoric acid, and adding sugar to the solution to make a syrup. Some years ago he had recommended the syrup of the superphosphate of iron (elsewhere known as the biphosphate of iron) as a remedy for weakly children, and those weak adults with mental diseases. Its uses as such have been since amply proved. He now recommended this as an excellent remedy in rickets and weak children with deficient osseous development. It was very pleasant to take, and did not blacken the stools. Each ounce of the syrup contained five grains of iron and five of phosphate of lime.—*F. Stearns.*

BIBLIOGRAPHICAL RECORD.

I. *Concentrated Organic Medicines. A Practical Exposition of their Therapeutic Properties and Clinical Employments, &c. &c.* By Grover Coe, M. D. Published by B. Keith & Co. New York. 1858.

Imagine for a moment the feeling of hopeless depression with which the student, fresh from the tedious pages of "Pareira" or "the Dispensatory," will undertake the perusal of this work. After all his patient labors, he finds himself face to face with an entirely new set of remedies, "*the combined proximate medicinal extracts;*" and his flesh quails at the formidable catalogue before him. Nearly *one* hundred of these "organic medicines," all rejoicing in sonorous names, present themselves to his astonished view for the first time, and his brain is bewildered with the polysyllabic music of the hamamelin, caulophyllin, the cypripedin, or the menispermin, running up and down the alphabetic gamut, from amphelopsin to xanthoxylin.

Soon, however, will this sadness be turned to joy, as the investigation proceeds; and he who began with a sinking heart, will presently cry out, Eureka—no more difficulty now—no more misgivings about the method of treatment. Dr. Grover Coe has written a book, and B. Keith & Co. have published it.

And here let us perform that always pleasant duty of bestowing praise when it is justly merited. On the authority of Dr. Grover Coe, we can state that but for the liberality of the enterprising publishers, B. Keith & Co., this valuable production might never have seen the light! Nay, we can go farther. "To this enterprising firm we owe all of these inestimable organic medicines. They have invented them in their laboratory," 590 Houston street. Mr. B. Keith has for six years been "testing in clinical practice these preparations, which his scientific skill had succeeded in bringing to a state as near perfection as possible;" and indeed "to this gentleman and his colaborers in the field of organic chemistry, belong the credit (for which they now want the cash) of being the first to discover, describe and introduce to the profession all but two of the concentrated preparations enumerated in this work"—p. 110.

Not only has Mr. B. Keith prepared and made ready these invincible specifics, thoroughly tested in practice by himself and his author, Dr. Grover Coe, but the latter individual has in this book of four hundred pages, brought together a mass of evidence in favor of the organic extracts when used in the treatment of incurable diseases, which we may safely say is unparalleled.*

After so much to praise, we regret to find a serious and glaring cause of complaint. Our duty as critics compel us, however, to speak. There are two portraits in this book—one of "Yours respectfully, B. Keith," and the other, of

* As an evidence of the wonderful nerve of the author, see the following "extract" from his preface: "Some few typographical errors have undoubtedly crept in, consequent upon family afflictions and professional cares, *by which our attention has been much diverted.*"

"Very respectfully, yours, &c. Grover Coe." Of the first we must say, that after the philanthropic labors in the laboratory, 590 Houston street, for the good of humanity—after in *six years* doing more than all the rest of the world in twenty centuries, we *must* say that it is a disgrace to see this great and good man LIBELED in this atrocious manner. Why, reader, if you were to meet a passenger in an omnibus with such a face as this *falsely* called "Yours respectfully, B. Keith," you would instantly put your hand on your pocket book. We don't care who did it. A man in New York named Orr, says *he did it*, but we never, never will believe that this is any thing like the great originator of the concentrated organic medicines.

Let us turn for a moment to "Very respectfully, &c. Grover Coe." It can't be like that gentleman. Where is the laughing face, "diverted with typographical errors and family afflictions." It is impossible to believe that one who has found out (in the laboratory of B. Keith & Co.) a certain cure for all diseases, ever sported *such a beard.* Cross Tom. Hyer upon the Benicia boy, and the attempt would be a failure. But we can't speak of these *shameful caricatures* as they deserve.

In this book, then, reader, you will find *the remedy* for every disease! All that you have to do is to write to B. Keith & Co.(e), and you are ready for action. "The indomitable energy and skill of this firm" have surmounted all obstacles. Take the gelsemin for instance—"fevers of almost every type may be controlled in from *six* to *eighteen* hours." But B. Keith & Co.(e) have a great many other extracts to sell you; and the more you mix them the better they are. So put with gelsemin, podephyllin and euphorbin, and rheumatism stands no chance. Add leptandin, pneumonia vanishes; but for a scarlet fever, don't forget asclepin. Female disorders, however, require to be added, caulophyllin, viburin, corhein and cerasin.

All that we have said, however, fades into insignificance, when we approach the invincible *veratrin.* Here our au-

thor, who truly says in his preface that he had "not sought to charm the sense by elegance of diction," surpasses himself. It cures every ill to which flesh is heir, and even is successfully employed in the removal of *pin worms from the rectum.**

"Its positive yet kindly control of the heart and arterial system—by means of which we may say to the turbulent currents of the blood, 'peace, be still,'—constitutes it a *sine qua non* in the treatment of febrile diseases." And lastly—oh! ignorant pretenders and deluded followers of the healing art—throw away your calomel vials, burn down the drug stores, and send an order to B. Keith & Co.(e) for the true elixir of life. Give it to your patient, "and you can truly pronounce him *well, when he is discharged*—no ptyalism; no loosening of the teeth; no sloughing of the soft parts; no lesions of the mucous membranes or other tissues; no morbid discharges from the eyes or ears, as is frequently the case in scarlatina and measles; no troublesome eczema to harass the weary sufferer; no barometric pains to announce approaching meteoric changes; no fœtid ulcers discharging their filthy ooze from fountains of corrupt and stagnated secretions within; but a system renovated and invigorated—the vital currents *leaping* in LIVING JOY through their unobstructed channels—the unfettered nerves *harmoniously* obedient to the mandates of the organic intelligence, and the *rose of health* blooming in grateful acknowledgment over the INTEGRITY of the SOUL'S CITADEL."†

* "FIVE to TEN drops in THREE or FOUR ounces of water," have been used, but Dr. Grover Coe says that *he* would prefer it mixed with a "*thin mucilage of slippery elm*, or a *solution of molasses and water*;" and we agree with him most decidedly.

† As another evidence of the power of these organics, see p. 246, where, by a combination of lobelia and podophyllin, Dr. Coe removed from the stomach of a child eight months old, *one and a half pint of solid casein.* When we recollect that for this proportion of casein, the stomach must have also taken in 1½ pint of butter, 1½ pint of sugar of milk, and about *thirty pints of water*, besides various salts, can we hesitate to confess the value of the remedy? Our author, in this case, considered the "so-called congestion of brain to be nothing but acrid ingesta in the alimentary canal;" and we say he was *right.*

II. *Mind and Matter, or Physiological Enquiries.* By Sir BENJAMIN C. BRODIE, Bart., D. C. L., Vice-President of the Royal Society. With Additional Notes by an American Editor. Samuel S. and William Wood. 279 p. oct. New York. 1858. (From the Publishers.)

THIS little book consists of a series of essays, in which the eminent author has embodied, in a popular form, the substance of several physiological contributions to the proceedings of the Royal society. It is designed to teach views somewhat more definite than those commonly entertained in regard to the mutual relations of the physical organization and the mental faculties, and discusses this obscure but most interesting subject with singular clearness and simplicity.

The author has adopted the method of dialogue as best adapted to his enquiries. The interlocutors are Ergates, a physician, Crites, and Eubulus, a retired statesman. They discuss, in six dialogues, imagination, memory, insanity, dreams, the mental faculties of animals, instincts, phrenology, and the science of human nature. We are sure that thinkers of all professions will find these essays replete with interesting matter. To the medical reader, it is superfluous to recommend any thing emanating from the pen of Sir Benjamin Brodie.

Messrs. Wood's edition is a neat reprint from the third London edition. It derives additional value from the judicious editorial annotations, which include several interesting citations from authors not generally accessible, and illustrate the text very happily.

III. *Of Nature and Art in the Cure of Disease.* By Sir JOHN FORBES, M. D. (Oxon.), F. R. S., etc., etc. 261 p. oct. New York. Samuel S. & William Wood. 1858. (From the publishers.)

MORE than two years ago, in some comments on the first aphorism of Hippocrates, we uttered the following editorial dicta: "Medicine requires some such criticism as that to which psychology has been subjected by Kant. It would lose many of its ambitious pretensions by this cruel though salutary operation, and many rights it has usurped; but its affairs would be set in order, and it could enjoy with security and honor its narrow but uncontested domain. Hitherto, medicine,—science, art and profession,—has had only apologists and detractors, advocates or enemies, special pleaders on both sides. There has been no judge."* It may now be said that this work, if not formally achieved, has been very fairly commenced, by two of the masters in Israel, Bigelow, on this side of the water, and Forbes, on the other. These men are not skeptics; but they reduce, with judicial severity, the exaggerated pretensions of medical art; and point out, in a truly philosophical manner, the sanative powers of nature.

The profession are indebted to the Messrs. Wood for an excellent reprint from the second London edition of Sir John Forbes' book. It is deserving of a very different notice than we now have time or space to give it. Though incomplete, it is a masterly exposition of the real nature of disease, and the true character and limits of the curative powers of art. It abounds in wise, practical instruction, and will powerfully contribute to a reformation in that faith in drugs as the exclusive means of cure, which is still so widely prevalent. We hope that it will be read by every physician in our country, and that its reception will prove that a vast change has taken place in our profession, since Rush declared that he would treat Nature in the sick room as a squalling cat, to be thrown out of the window as quickly as possible.

* Va. Med. Journal, vol. vi, p. 507, June 1856.

IV. *Diseases of the Urinary Organs, &c. &c.* By WILLIAM WALLACE MORLAND, M. D., &c. With Illustrations. Philadelphia. 1858. Published by Blanchard & Lea. (Received from Geo. M. West, Richmond.)

THE author of this excellent compilation has been favorably known to the profession for some years as a steady laborer in the field of medicine, faithful in his duties as a member of the Boston society for medical improvement, careful and conscientious as one of the editors of the Boston Medical and Surgical Journal, and a successful competitor for several of the medical prizes. Indeed, the present work is mainly made up of two essays which received the Boylston prizes of 1855 and 1857.

The reader will therefore not be disappointed as to the value of Dr. Morland's book. It bears the marks, from beginning to end, of much research, and is peculiarly rich in recent facts bearing on diseases of the urinary organs, both of a physiological and pathological nature. We doubt if so complete a resumé of the literature of urinary affections can any where be found.

The range of the work is large, comprehending diseases of the supra renal capsules, kidneys, ureters, bladder and urethra. The pathology of these affections is very carefully elaborated, and every advantage is taken of the microscope, the chemical tests and the recent anatomical and physiological discoveries, which have shed much light on these maladies. The author's style is clear and distinct—sometimes wanting in ease, but always accurate, and free from affectation. We can, without hesitation, recommend the work to the profession.

EDITORIAL AND MISCELLANEOUS.

Eighteen Hundred and Fifty-Nine.

In offering the compliments of the New Year to our numerous friends and readers (are we wrong in saying, that they are many?), we remember that, having reached the age and dignity of a twelfth volume, it is expected of us to put away, on such occasions as the present, childish things, and comport ourselves with the gravity and decorum of maturer years. Instead then of following the custom of our babyhood, and indulging in fanciful allegory, or comical vagaries, we rather, having arrived at years of discretion, desire to indulge in the usual philosophic reflections on the rapid flight of time, the degeneracy of the coming generation, when compared with that of *our day*, and our certain convictions that the world is about to come to an abrupt termination just as soon as we are gone, winding up with the poetical allusion customary at such times, where long-winded science and short-winded life are intertwined with beating hearts, muffled drums, and other funeral emblems appropriate to the dying year.

Yes—good friend and reader; better friend, who has been with us from our birth-day six years since; *best* friend, who has never yet failed us (and who always prepays his subscription)—we wish you, one and all, a happy New Year. May your practice be so profitable as to give you *five dollars* to throw in *our* treasury. May your professional influence be great enough, with your neighboring brethren, to persuade them to subscribe for "The Journal." May your devotion to the interest of science, and the welfare of the profession and good will towards us, induce you to send to our columns the results of past reflections and experience. And lastly, may we venture to hope that you will continue to throw

the mantle of charity over the many short comings, which we are painfully conscious can be urged against our work. Almost alone, we have fought our way through eleven volumes; against difficulties of every variety, against false friends and open foes. Of those who were with us in those early days, some have gone to their long account—in the martyr's grave at Norfolk; beneath the ocean's wave, or under the peaceful shade of church yard trees—some, by inexorable fate, have been separated far from us; but even there, they are always ready to give the cheering word, or the helping hand. With all these drawbacks, our progress has been onwards, our contributions have increased in number and value, and to-day standing, as the sole representative of the Virginia profession, we may point with a becoming pride to the respectable position which has been cheerfully granted us by our cotemporaries.

And so, in one common brotherhood, let us all unite in one common support of our native state, its interests, its institutions, its literature, and its future prosperity; and may the renewed spirit and energies of our noble and influential profession be in future chronicled on every page of the *Virginia Medical Journal.*

The British Medical Council.

For an hundred years, the medical men of Great Britain have labored to introduce into the profession that order and harmony, which, owing to the conflicting laws and customs of the different portions of the empire, has been greatly needed to prevent confusion and discontent. Thus, a graduate of an English school of medicine lost the advantages of his diploma when he passed over the Scottish border, and the reverse also was the case. The requirements for the degree of M. D. differed in England, Scotland and Ireland, so that a doctor in Dublin might be deprived of his title in

London. These diversities of laws have heretofore prevented a regular registration of the profession in Great Britain, a result greatly to be desired every where.

We are pleased now to state, that her majesty's present government and parliament have taken decisive steps to overcome all impediments to the formation of a national medical profession. They have granted authority to all the leading schools and universities of the three kingdoms, each to elect a representative to a great *medical council;* and the government itself is represented by six medical men selected at large.

This council met for the first time on November 23d, at the hall of the Royal college of physicians in London. The members of the council include many very eminent names. WATSON of London, SYME and WOOD of Edinburgh, BOND of Cambridge, and APJOHN of Dublin, while the government sent in a brilliant representation, composed of STOKES, LAWRENCE, SIR CHARLES HASTINGS, SIR JAMES CLARK and CHRISTISON of Edinburgh.

The council honored themselves in conferring the honorable appointment of president of the Medical council on SIR BENJAMIN BRODIE; and as an evidence of the enthusiasm which prevails, it is thought probable that ere long, this distinguished gentleman will be elevated to the house of lords—there, by the side of the bishops and lord chancellors, to vindicate the majesty of medicine.

VARIETIES.

Medical News and Items.

DOCTORS IN CHINA.—M. Huc tells us that in China every one is at liberty to practice physic; the government never interferes. The reason is, that it is thought every one will have sense enough not to put himself into the hands of an ignoramus. Thus any one who has read a few receipt books and learnt the names of a few drugs may cure or kill at pleasure. The consequence is, that

doctors are superabundant in China; every where you meet with doctors. Their position, however, is not brilliant, as may be readily imagined, nor are their profits large. Generally speaking, visits are not paid for; and the remedies given are sold cheap, and always on credit, so that the doctor of course loses one-third of his income. [In some of these particulars our civilization here in England is certainly much on a par with that of our Chinese confrères.] Moreover, the custom is only to pay when the medicine does good. But sometimes things are worse than this; the doctor has, occasionally to fly for his life, in order to avoid the bamboo, or the prison, or fines; and this happens, when having promised to cure a patient, he lets him slip through his fingers. The friends of the deceased consider these summary processes more convenient than legal appeals; and the government is disposed to give them such liberty, as a way of keeping the doctors in order. Chinese doctors love specialities. Some treat diseases originating from cold; some those which result from heat. Some practice acupuncture; others set broken limbs. There are doctors for the old, for the young, for women, and for children. Some of them are blood-suckers—species of man-leeches; these apply their lips to abscesses and swellings, and suck out their contents. "We once saw one of these vampires, and shall never forget the disgusting sight presented by his hideous face glued to the side of a patient, as if he would have devoured him." Barbers take care of the eyes, the ears and the feet, and have also the special privilege, in the south, of fishing for frogs. Doctors never become rich; they live a hard life of it, just like their fellow laborers, the schoolmasters.—*Med. Times & Gazette.*

THE WORLD'S VALUE OF THE PHYSICIAN.—"There has been, no doubt, a sluggish tardiness in the mind of the world to acknowledge the true grandeur of the medical profession, when dutifully and honestly pursued. Alas! we are all of us sufficiently conscious of the physician's power over us, when he cautiously closes the door of the sick room, and we watch the glance of his eye or the wrinkles of his mouth for the faintest reflection of those inner thoughts, in which the issues of life and death may be already prejudged. But the careless and the healthy world is apt, perhaps, to forget the true elevation of the untitled and unrobed master of science."—*Blackwood.*

SIMULATED ABORTION.—A sage-femme of the town of Melun, finding her practice interfered with by a new competitor, thought to be rid of her in the following way:

She procured an accomplice of course. The accomplice pretends to be enceinte, and sends for the new and objectionable sage-femme, who comes, makes her examination, and departs. After her departure, the accomplice finds herself very ill, and declares that she has been injured, "la malheureuse m'a blessée." Thereupon she sends for the original sage-femme, her proper patroness, who declares that abortion has been produced; and doctors are called in to certify to the fact; but they are not thus to be deceived. MM. Tardieu and St. Yves discover the trick, and expose the vile deceivers.

TIGHT LACING.—"The injurious effects of tight lacing have often been pointed out, and in England, at least, women have pretty generally learnt to see the danger, if not always the hideousness of these wasp-waists, once so highly

prized. A single fact elicited in the experiments of Herst will have, probably, more weight than pages of eloquent exhortation. It is this: the same man who, when naked, was capable of inspiring 190 cubic inches at a breath, could only inspire 130 when dressed. Now if we compare the tightness of a woman's stays with the tightness of a man's dress, we shall easily form a conception of the serious obstacle stays must be to efficient breathing; and the injurious effects of this insufficient breathing consists, as we shall see hereafter, in its inducing a depression of all the vital functions."—*Blackwood.*

STARVING BACHELORS—INSANE FEMALES.—A few weeks ago we referred to the fact that well-to-do bachelors were actually starving in New Zealand for want of wives. It is sad to put by the side of such a fact a statement like the following:

"Among the inmates of Bethlehem hospital, during the ten years from 1846 to 1855, inclusive, were a hundred and ten governesses and a hundred and eighty-nine dressmakers; and in reference to them Dr. Hood, in an able report, remarks, 'Among the female patients, the only point which seems to require notice is the large number of governesses and dressmakers, including milliners and sempstresses. It is no wonder that an elegant, accomplished, and otherwise delicately-nurtured lady, should pass from unhappiness to misery, and from misery to insanity, in a position which too often is not half so desirable as that of a domestic servant; nor is it necessary to dilate upon the causes which operate on thousands of the class of dressmakers, who are driven mad by penury, trouble, and perhaps remorse.'"

WHO TAUGHT THE PUBLIC TO TAKE PILLS?—"The use of purgatives in intestinal disease is a subject of great importance, and one which appears to me to have been much misunderstood. It has been supposed, for instance, that a good alvine evacuation once a day is necessary to the healthy state of the body, and that an individual who only has such an evacuation once in two, and sometimes in three days, is constipated. The idea has led to the habitual use of purgatives, and is the principal cause of the enormous number of aperient pills annually sold with government stamps in this country. The fact is, that many persons naturally never have a motion above once in two or three days, and retain their health 'quite well.'"—*Professor Bennett.*

TRUE MEDICAL BROTHERHOOD.—Dr. Urbain having recently died at Paturage, in Belgium, his confrères have agreed among themselves to discharge for the benefit of his family the duties that fell to his lot as surgeon to several coal mines, until his son, at present pursuing his studies, is in a condition to undertake the post.

MEDICAL COSTUME IN JAPAN.—The difference of sex, and even distinction of profession, is generally exemplified by the mode of dressing the head; the men usually shave the hair from the front and crown, and gather the rest together in a sort of coil on the bald part; priests and physicians shave off all their hair, while surgeons retain the whole.

AMERICAN ENTERPRISE.—A Yankee physician, named Bates, from Ashfield, Massachusetts, has established himself successfully in practice at Kakocandi, Japan.

VIRGINIA

MEDICAL JOURNAL.

FEBRUARY 1859.

ART. I.—*Pneumonia Cut Short.* By OTIS F. MANSON, M. D., of North Carolina.

> "La médicine ne s'enrichit que par les faits: fournir de nouveaux faits, ce serait donc fournir de nouvelles lumières."
>
> *Broussais.*

HAVING given to the profession of Virginia and North Carolina a series of articles on the most important forms of malarial diseases, as they have appeared under my observation for the past seventeen years, I offer, in addition, a few brief histories of the most important cases of each of these varieties, in order more clearly to define their features, illustrate their nature, and to indicate the modifications of treatment which circumstances may require. I regret that I cannot at present give the appearances after death, it being my design at some future time to supply this deficiency; but it is hoped that this temporary omission may be forgiven, if in lieu of it I shall be able to transcribe correct representations of the phenomena presented during life, and to direct attention to a plan of treatment which I regard as possessing prominent claims to investigation.

The form of pneumonia of which the following cases are examples, is, in my opinion, that which has been endemic in the southern states from the remotest period of which

we have any medical record, down to the present day. Originally passing under the various designations of bilious pleurisy, head pleurisy, winter fever, lung fever, and many others, until the developments in morbid anatomy having demonstrated the fact that the majority of cases termed pleuritic were really affections of the lung parenchyma (the inflammation of the pleural membrane being circumscribed and comparatively unimportant), the term pleurisy and its adjuncts gradually fell into disuse. Unhappily, however, in importing the morbid anatomy of the disease, we not only copied the views of its pathology based thereon—not only committed the fatal error of imitating the English and continental methods of treatment—but the vital history of the malady also passed away. As erroneous views had been formed of its organic changes, it was thought necessary to discard the past records of the rational symptoms, and at one fell swoop, the accumulated observations of years, in regard to its course, nature, peculiarities, complications, duration, terminations and treatment, were swept into oblivion, and a system of therapeutics, guided by physical signs, and based on dead-house revelations, was erected in their stead. Alas for humanity—for science—that this was and is. The lancet has, in consequence, shed the blood of thousands; antimony has paralyzed the already feebly-resisting vital force of its myriad victims; and the southern physician, now groping darkly in the labyrinth of conflicting doctrines, now vibrating between the teachings of authority and the sterner teachings of the bed-side, has finally too often been condemned to hopeless inactivity, and suffered the destroyer to pursue his ruthless course unmolested. To-day, from the loftiest pinnacle of modern science, the genius of medicine replies with melancholy wail to the agonizing cry of the old Roman of the seventeenth century:

> O! quantum difficile est curare morbus pulmonum!
> O! quanto difficilius eosdem cognoscere!*

* Baglivi, Opera Omnia Med: Pract. (De Pleuritide) 34.

Let us then retrace our steps. Let us exhume from the buried past the treasures laid up by those who have gone before us. Let us shake off the dust in which time has enveloped those precious tomes, too long despised and neglected—and with the lights of past ages to guide our steps, let us again go forward, ignoring no additional sources of information, examining every fact presented to us, whether developed by the scalpel, the stethoscope, the crucible or the lens, but holding all in subjection to the tribunal of that "noble and most sovereign reason," with which we are munificently endowed.

In order that the following cases may be more clearly understood, I must beg the reader to refer to my papers on Malarial Pneumonia, in the 9th volume, and on Remittent Fever, in the 4th volume of this journal.

Case I.—Miss ——, aged 13, delicately formed, dark hair, fair skin, good complexion, has been sick 5 days. Her attack was ushered in by a chill, followed by well-developed fever, headache, constant nausea, and frequent vomiting of the gastric secretions, tinged with bile. On the 3rd day the pleuritic pain and cough first appeared, and on the next (the 4th), copious ferruginous expectoration ensued. Owing to the excessive gastric irritability, but little medicine has been taken, save a few minute doses of calomel; and on yesterday, during a temporary cessation of nausea, small doses of tartar emetic were given, but soon necessarily abandoned. Her bowels have acted moderately, but the fluidity of the discharges evince a tendency to diarrhœa. Her fever has remitted every morning, and the evening exacerbations have been marked. She has not slept, save a few moments, since the commencement of her illness. The coolness of the extremities, usually present in the morning in this disease, has not been observed by the attendant.

Present condition 5th day of the attack.—Intense pleuritic pain in the left side; *large crepitation* in upper lobe of left lung; dullness and absence of respiratory murmur or râle

from 4th rib to base, anteriorly; universal dullness, left posteriorly; right lung free and resonant throughout, with exaggerated respiration (puerile); copious rusty sputa; respiration frequent, irregular and painful; has been sleepless the whole of the past night; nausea continues, but vomiting not so frequent; pulse 128, quick and full, but not hard; tongue covered with thick ash-colored fur, inclined to be dry, pointed and red at the extremity; skin hot and dry; intense headache; eyes injected and cheeks flushed. In this condition, at 7 o'clock in the morning, I gave her 10 grains of sulphate of quinine in a capsule of lichen;* and at 10½ A. M., the pulse being reduced only 10 beats, I gave 6 grains more. At 11½ A. M. she fell asleep under its influence, the pulse continuing to fall until midnight, when she became free from fever, pain and every uncomfortable symptom. We append a table, which will give at a glance the result:

Patient—Female, aged 13 years:

7	o'clock	A. M.,	pulse	128.	℞ 10 grs. sulph. quinine.
10½	"	"	"	118.	℞ 6 grs. "
11½	"	"	"	118.	Now sleeping quietly.
5	"	P. M.,	"	108.	Perspiring; sleeping.
6	"	"	"	104.	" skin pleasant.
7½	"	"	"	100.	" "
10½	"	"	"	94.	" "
Midnight,		-	"	88.	" no fever.

Remarks.—It will be seen that under the influence of 16 grains of quinine in a patient 13 years of age, on the 5th day of her illness, this case of perfectly developed pneumonia was arrested in 17 hours. No medicine was given afterwards. There was no return of pain. The expectoration lost its sanguineous character entirely in 36 hours afterwards, and the patient steadily convalesced, without an

* These little French inventions (furnished me by my friends, Messrs. Purcell, Ladd & Co. of Richmond, who keep every thing which is novel as well as pure in their line), will be found very useful in giving quinine in cases attended with gastric irritability. Grind the crystals finely in a mortar; make into a pilular mass with syrup of gum-arabic, and place in the capsule: one of which will hold 10 grains of the sulphate thus prepared.

untoward symptom, without bleeding, local or general blistering, antimony or mercury.

It may be here enquired, why I did not administer some expectorant? I reply, that, guided by the views I entertain of the pathology of this disease, as it presents itself to me, that it is not primarily a phlegmasia, but a fever; a disease of the general system; the affection of the lungs being only a local determination, produced by the predisposing tendencies of the season, I therefore awaited confidently the disappearance of the local symptoms arising from congestion of the vessels of the liver, stomach and bowels (as evinced by the nausea, vomiting of bile and tendency to diarrhœa), and last in *the order of its occurrence*, of *the lungs*. Had this, however, not promptly occurred, there was nothing in the foregoing treatment which would have interfered with the use of remedies addressed to the local symptoms; but on the contrary, the arterial system was now placed in the most favorable condition to facilitate their action.

I wish to draw particular attention to the production of sleep in this case. I do not think that it is generally known that quinine possesses narcotic properties. Of this fact its action in many cases in different diseases several years since fully convinced me. I will here only allude to cases from my note book, in which it promptly induced sleep in delirium tremens, hysterical convulsions, and in fever, where large doses of opium had failed to produce any impression. I wish also to call attention to the sudden disappearance of the pleuritic pain in this case. This is a very common result in this treatment. It has often occurred to me to witness the speedy removal of this intolerable agony in a short space of time, after every other means had failed, viz: blood letting, local and general, blisters, fermentations, mercury, antimony and opium. This property alone should entitle the remedy to our highest appreciation. I regret that the number of respirations were not noted in this case. I distinctly remember that the breathing was very rapid. In the next case, however, the effect of treatment on the res-

piration and physical signs will be more distinctly perceived.

Case II.—Allen, a young man aged 21 years, a carpenter, hardy, robust, florid complexion, dark hair and eyes, has been unwell for three days; thinks he has had chills; knows that he has been feverish, with headache, loss of appetite, and slight cough; has nevertheless kept at work until evening before the last, when he was seized with pain in the side and severe cough.

Present condition November 31, 5 *o'clock P. M.*—Intense pain in left side; irregular breathing; respirations 38; cough very painful; copious bloody sputa; intense headache; eyes injected; face suffused with a deep-red glow; tongue heavily coated with a dirty-white fur, and inclined to be dry; mouth glutinous, with brown incrustations on his lips and gums; pulse 120, of moderate volume and force; skin hot, but slightly moist; bowels quiet. Physical signs: Marked dullness in left side posteriorly from base to apex of lung; *bruit de taffetas* (Grissolle) between scapulæ, very distinct; anteriorly, circumscribed crepitant râle below clavicle; *right side free.* Prescribed: At 9 o'clock to-night he is to take 20 grains of calomel, which is to be followed at midnight by 20 grains of sulphate of quinine in a wineglassful of water, and at 4 o'clock in the morning 10 grains of quinine in the same manner; warm poultices to the left side. I could not stay with this patient as I desired.

Dec. 1st, 10 A. M.—I find the patient much improved; calomel has operated three times; pulse reduced to 100; respirations 28; cough rare and slight; pain much less; breathing more regular; skin moist and warm; slightly deaf from the quinine. Prescribed calomel, 1 grain; ipecac, ½ grain, every 2 hours until 6 doses are taken.

Afternoon, 5 o'clock.—Head entirely relieved; sputa more liquid and less bloody; pulse 100; respirations 24; pain very slight; coughs very seldom. Prescribed: At 9 o'clock to-night he will take 10 grains of calomel and 1 grain of

ipecac, and at 3 o'clock in the morning 16 grains of sulphate of quinine. Continue warm poultices.

Dec. 2d, 1 o'clock P. M. (could not get to the patient earlier).—Pain in the side and cough have nearly disappeared; pulse 78; respirations 20; skin soft and moist, without febrile warmth; has had 5 or 6 dark, bilious evacuations in the night. No medicine prescribed; continue cataplasms; diet, tea and bread; has refused all nourishment heretofore.

Dec. 3, 4 P. M.—Pulse 62; respirations 18; skin natural; bowels quiet. Chest fully examined. Right side free; very slight dullness posteriorly and inferiorly over lower lobe left lung; *rhonchus crepitans redux* from thence to apex; cough very slight; mucous expectoration; no pain; tongue cleaning. Diet, buttermilk and corn bread (which he prefers).

Dec. 4, 10 A. M.—Imprudently sat up yesterday evening, his house being an open, damp log cabin—probably, in consequence of which, I do not find him so well to-day. Tongue inclined to be dry, and rather florid at the tip and edges. His pulse, which is 72, does not denote fever, but he complains of *soreness* of the left *side* and of *the throat*, and there is some flushing of his cheeks and warmth about his forehead. Prescribed calomel, 1 grain every two hours until his bowels are gently moved, and a blister to the left side for security.

Dec. 5, 3 P. M.—Comfortable; little or no cough; blister has drawn well; appetite returning; pulse and respiration natural. Discharged.

We append a table showing the result:

Patient—Male, aged 21:

Nov. 31,	5	o'clock	P. M.,	pulse	120,	respirations	38.	
"	9	"	"	"	"	"	"	℞ 20 grs. quinine.
Dec. 1,	4	"	A. M.,	"	"	"	–	℞ 10 grs. quinine.
"	10	"	"	"	100,	"	28.	
"	5	"	P. M.,	"	"	"	24.	
Dec. 2,	3	"	A. M.,	"	"	"	–	℞ 16 grs. quinine.
"	1	"	P. M.,	"	78,	"	20.	
Dec. 3,	4	"	"	"	62,	"	18.	
Dec. 4,	10	"	A. M.,	"	72,	"	"	

The fact worthy of note in this case, is the prolonged and steadily increasing sedative action of quinine on the heart for 36 hours after the last dose was given, viz: At 3 o'clock in the morning 16 grains of quinine were given, which reduced the pulse to 78 in 10 hours, and still continuing to manifest its influence for 27 hours longer, finally reduced it to 62 beats per minute, after which it gradually arose to the normal standard. This effect, known to me for many years, has not, however, escaped the scrutiny of Briquet.* He did not, however, observe it in pneumonia, as concerning the effect of quinine in that disease he had no experience. I will close this paper, by relating an interesting case, to which I may hereafter revert as illustrative of the nature of this disease.

Case III.—Lee, aged seven years, a little son of C. H. K. Taylor, Esq., the senator from Granville, was seized with a chill at school on the morning of November 2d, followed by active fever, headache, nausea, vomiting, and pleuritic pain in the left side; has been delirious and extremely restless on the evenings of the 2d and 3d—the delirium commencing about noon and increasing in violence until late in the night when it has gradually subsided (without, however, terminating in sleep); so that he has been apparently rational on the mornings of each of those days. I saw him first on the morning of the 4th, at 10 o'clock.

Condition.—Extreme restlessness; pulse 142, of moderate fullness, and compressible; respiration painful, very frequent and irregular; expectoration bloody, and very copious, but not very viscid; skin hot; tongue dry, heavily coated, pointed, and red at the extremity and edges; constant nausea, thirst, and frequent vomiting; bowels inclined to be loose; complains violently of headache and pain in the left side; seems to be rational. Physical signs: General dull-

* Il est assez souvent arrive que l'influence sur la circulation a persisté plusieurs jours apres la cessation du mendicament et dans bien des cas les malades sont sortis de l'hopital avec un pouls au-dessous du type physiologique. Traité Therapeutique du Quinquina, Paris, deuxième ed. 1855.

ness in left side, posteriorly, but not entirely flat; anteriorly, dullness over lower half of lung, and absence of murmur over the whole space; deficient in resonance; above this line, *crepitation* with *large bubbles;* right side free.

This, it will be perceived, is a well marked case, the pathognomonic sputa being as abundant as it is usually seen in an adult. (I will here remark, that this is the youngest patient in whom I have witnessed this peculiar expectoration.) The auscultatory signs were well marked, unless the absence of the true *primary crepitant rhonchus* be considered as rendering the diagnosis incomplete. (Of this more hereafter.) I prescribed for this little patient minute doses of calomel every half hour, to be taken throughout the day and night; ice to eat; lime water and milk; sinapisms, followed by bran poultices to the side.

Nov. 5th, 11 A. M.—The delirium came on again yesterday, and continued until this morning, and he now again appears to be rational. Has retained very little medicine. Condition similar to that presented yesterday. I would not remove the warm poultices to auscult the chest. I now resolved to give the veratrum viride a trial, and directed two drops of Norwood's tincture every three hours until his pulse should fall to 80. At the third dose it fell below 60, attended with general coldness of the surface, and its peculiar alarming symptoms of prostration. The medicine was of course discontinued, and some weak toddy given and warm applications made; after which he gradually rallied. The delirium, however, reappeared in the evening, and continued as before.

Nov. 6.—Condition unimproved; diarrhœa, but not excessive; stomach revolts at every thing. Prescribed sinapisms to epigastrium; continue poultices. Delirium recurs again to-day.

Nov. 7.—Condition unaltered.

Nov. 8.—I regard the case to-day as critical in the extreme. The delirium, though milder this morning, has *not perfectly intermitted.* The pulse is very quick, and the patient very

restless. The expectoration is more viscid, less copious, and excreted with more difficulty. The respiration is very frequent, irregular and interrupted. *His stomach, however, seems to be more tranquil.* This morning at eleven o'clock I observed a marked coolness of his feet and hands for the first time, but his head is hot, and the rest of the surface of febrile warmth; his tongue is dry, heavily coated with a brown fur, pointed, and very red at the tip and edges.

Reader, this boy will die unless the disease is arrested. He is nearly exhausted from want of sleep alone, having slept a few moments only since his illness began. I resolved, in spite of the gastric irritability, to give quinine, and accordingly prescribed six grains to be taken at midnight and three grains at four o'clock in the morning—each dose to be suspended in a wineglassful of coffee. The case had now assumed a fearful interest to me. It seemed almost idle to hope that his stomach would retain the medicine, but fortunately both doses *were retained.* I was compelled to leave him before the effects of the remedy were fully manifested, but his grand father, Dr. Thos. Field of Mecklenburg, Va., was with him during the time. Under its operation his pulse came down; he fell asleep soundly for several hours; his breathing became tranquil; the pain in the head and chest disappeared; and on my return in the evening at five o'clock, I found his pulse at 90, the patient quietly sleeping, and almost entirely free from fever. On the next morning, a dose of 6 grs. of quinine was given; and from this time he steadily convalesced, without the intervention of any other remedy.

As I feel the responsibility incurred in advocating this mode of treatment, I naturally feel desirous that those who may be led to adopt it from what I have written on the subject, should do so in a proper manner. I refer them, therefore, to the articles before designated, and will close by adding the following suggestions:

Give the quinine boldly, and continue it at intervals of 4 or 5 hours, until the pulse approaches the normal standard. I

would advise that the first dose should not *be less than* 20 *grains* for an *adult*, if *decided febrile action* is present, to be repeated in doses of 6 to 10 grains every 4 or 5 hours, until 40 grs. are taken, *if necessary*, to reduce the pulse. I would not advise more than 40 grs. to be given in the first 24 hours. Less (say 30 grs.) will ordinarily suffice.

The medicine must be persisted in from day to day until the symptoms yield. I have been compelled to continue it in some cases for four or five days, but this has been very rarely necessary. Usually it will only be required in diminished doses after the first day of treatment—the rule being simply to *increase the dose according to the violence of the febrile reaction.* It is my custom to *give the first dose during the latter hours of night*, or very early in the morning, and to *precede it* by 3 or 4 hours with a *full dose of calomel.* The sulphate restrains the mercurial from exciting hypercatharsis; the calomel assists the sedative influence of the quinine, besides possessing other virtues unnecessary to repeat.

Give the quinine early the *first night* the patient is *seen.* Do not wait until the lungs are blocked up with blood—and above all, do not postpone it until that *final, fatal delirium* appears. The patient is then usually doomed. *Do not, however, despair even then*—for this treatment will sometimes rescue him when hope has almost fled.

When the pulse is *below* the *normal standard, do not give large doses of quinine.* The dose ought not to transcend 3 or 4 grs. in 4 or 5 hours, nor should more than 12 or 15 grs. be given in 24 hours, *watching closely its effects.* In *adynamia, small doses* might *depress too much.*

Weigh your medicine carefully. I attach a doubtful value to the experience of any one who pursues the uncertain and reprehensible custom, too prevalent among physicians, of *guessing* at the doses of their medicines. The pauper, convict and jail-bird have all of their medicines weighed or measured. Surely the worthy and respectable recipients of our skill deserve no less care.

Mode of administering quinine. I prefer to give it simply

diffused in cool water. If this is impracticable, after being ground finely, it may be made into pills with syrup of gum arabic (U. S. Ph.), or placed in the capsule of lichen before mentioned, or mixed in coffee. I know that no moderate quantity of this latter vehicle will interfere with the salutary action of the remedy, as Briquet (Op. cit. p. 306) erroneously supposes.

Be sure that your quinine is genuine. I use Powers' and Weightman's exclusively. The foreign articles in my hands have often failed.

ART. II.—*Surgical Cases Presented to the Class of Winchester Medical College, Session of* 1857–58—Treated by Drs. HUGH H. and HUNTER MCGUIRE. Reported by MARSHALL MCDONALD.

CASE I.—Oct. 20th.—*Partial opacity of the cornea, obscuring the pupil; iris unadherent; artificial pupil.*—The patient, a very delicate lady of strumous diathesis, æt. 45, was kept for several months upon a course of preparatory treatment, so as to prevent, as far as possible, the danger of re-establishing severe local disease by the operation. The left eye was disorganized; the cornea of the right was, throughout the greater portion of its extent, leucomatous, a small part at the outer and upper side being transparent. The extent of the transparent portion was not sufficient to allow an examination of the interior of the eye. The operation was performed without the aid of chloroform, in the following manner:

The lower lid being drawn down by an assistant, the upper one was raised by the operator, with the fore finger of his left hand, at the same time steadying the globe with the tip of the middle finger. The cornea was then incised to about a fourth of its circumference, with a first-size iris knife. The knife being withdrawn, the iris itself prolapsed,

and the required portion was cut off; the remaining protruded part was returned, a drop of a solution of atropine introduced, and the eye closed.

The patient was afterwards confined in a dark and quiet room, an opiate given, and cloths wrung in ice water applied to the eye.

Oct. 21st, 22d.—No inflammation has followed the operation. The patient complains of some soreness, but of no heat or pain.

23d.—The eye was examined, and a small oval-shaped pupil found immediately opposite the transparent portion of the cornea. No benefit, however, was received from the operation. The patient is not able even to distinguish light, the retina doubtless being too much damaged by previous disease to admit of any vision.

Case II.—*Partial opacity of the cornea; iris adherent; artificial pupil.*—Patrick F——, an Irishman, æt. 25, was presented Nov. 5th. His right eye was entirely destroyed by an attack of purulent ophthalmia; the central and lower part of the cornea of the left was occupied by a dense cicatrix, to the greater portion of which the iris was adherent, the anterior chamber of the eye being thereby much diminished; the rest of the cornea was more or less opaque.

Chloroform was given, and the eye prepared, as described in the last case. With an iris knife the cornea was cut along its upper and outer part near its margin; the knife passed on, and the iris incised. The gap not being large enough, a blunt hook was introduced, and partly by tearing, partly by stretching, a larger aperture was effected; a drop of solution of atropine was applied, and the eye closed. The patient was put into a dark room, perfect quietude and rest of the eye enjoined; cold applied, and an antiphlogistic regimen observed. Very little inflammation followed. A good sized, well-shaped pupil was the result; and in eight days the patient returned home, having regained tolerably good vision.

Case iii.—Mary F——, an Irishwoman, æt. 37, was presented to the class November 12th. Says that two weeks ago, while carrying a pail of water, she tripped and fell upon her right arm.

Immediately after the fall the parts about the shoulder became swollen and very painful. She had used some simple local applications, but had received no relief. (The patient's knowledge of English was too limited to obtain a better history of the case.) When presented, she carried her arm in the same position as in dislocation of the shoulder; and motion too, even when some force was applied, was fully as limited as in the last named condition. The swelling had entirely disappeared, and pain was felt only when motion was attempted. After a careful and patient examination, the difficulty was found to consist in a dislocation outwards of the tendon of the long head of the biceps flexor cubiti from the bicipital grove of the humerus.

Chloroform was given; the arm placed in a position to relax the muscles, and by a little manipulation, reduction of the dislocated tendon effected. Three weeks afterwards she was seen using the arm quite as well as ever.

Case iv.—James B——, æt. 26, very muscular and athletic, of sanguine temperament, presented himself May 1st, laboring under a diffused traumatic aneurism of the right popliteal artery. Says that seven years ago, while playing with a small pen-knife, it accidentally fell and entered just above the internal condyle of the right thigh. The hemorrhage which ensued was very great, but was arrested by a compress and bandage. When this was removed a small pulsating tumor was observed, which for three years gradually increased in size and became more diffuse. After this the tumor became sensibly smaller; the pulsation less distinct; the bruit entirely disappeared; and the lameness and pain attending the disease were proportionally alleviated. This was his condition two years ago, when, from some sudden muscular effort, the tumor was again enlarged. The

pulsation and bruit returned in full force, and finally he was compelled to submit to some surgical treatment on account of the pain and impending suppuration. Upon examination, the leg was found to be nearly twice its natural size, and an ill-defined, soft, pulsating tumor, with distinct and loud bruit, occupying the whole of the popliteal space, and spreading out for a short distance upon the internal surface of the thigh, just above the knee. The skin around it was bluish, and thinned by the pressure to which it had been subjected.

The treatment by compression was decided upon, and the patient immediately put upon the same preparatory course which is necessary before the operation by ligature, and during the time compression was used, absolute rest was maintained, and throughout the whole period of treatment an antiphlogistic regimen enjoined. Two clamps were used; one placed at the groin, the other about the middle of the thigh. One was slackened, the other screwed tight, alternately, and thus, the pressure being more widely diffused, was more easily borne. The clamps were of the simplest kind, the pad at the point of counter-pressure being well padded, but firm. That by which the artery was compressed was small, convex, and made of india-rubber. The cuticular hairs were removed, and the skin carefully powdered, in order to prevent, as far as possible, any irritation produced by the instrument, and the limb below the compressed point uniformly supported by bandaging to prevent passive congestion and œdema. The process was gradual and interrupted; the pressure used was neither great nor constant; at no time was the compression employed for a longer time than half an hour—generally for fifteen or twenty minutes—the clamps being again applied in about thirty minutes. The great point observed was to control the circulation with the minimum of pressure. In order to do this, the instrument was screwed up so that all pulsation ceased in the tumor, but still not so tightly as to prevent all flow of blood through it.

We desire active congestion and centripetal action—active congestion, so managed as to prevent inflammation on the one hand, and passive congestion on the other; rest and depletives, when the congestion threatens inflammation; exercise and stimulants when passive congestion impends, grafting activity upon indolence, so as to ensure an ample effusion of the most plastic lymph, completely to fill the cavity previously occupied by the blood, until it is confined entirely within its parietes.

May 5th.—The clamps were applied.

May 7th.—The pulsation and thrill weaker, the edges of the tumor becoming indurated.

May 10th.—Bruit disappeared; pulsation diminished; the induration increased in extent and degree.

May 15th.—Complains of pain in the knee and leg, which is greatly relieved by raising the leg and resting it upon a chair placed upon the bed; continued improvement of the parts.

May 20th.—The hardness has gradually extended inwards from the periphery, about one-third of the tumor being indurated; the pulsation in the remaining soft part weaker.

May 25th.—No perceptible improvement since last date; the patient directed to get up and move about on his crutches; the clamps to be left off.

May 31st.—Again put to bed; the tumor has not only maintained the condition in which we left it, but an absolute improvement has taken place, both as regards induration and pulsation; clamps again applied. The process of cure continued, until

June 12th.—At which time the pain and pulsation had entirely disappeared, and induration was complete.

Oct. 20th.—The patient returned to this place upon a visit; he had thrown aside his crutches and walked nearly as well as ever; the leg was still œdematous, but under the use of friction, pressure by bandaging, &c. &c., the swelling was rapidly disappearing; absorption had advanced to a considerable extent, and the obliterative cure was being

fully obtained, with I believe a pervious condition of the vessel.

Case v.—Mrs. F——, laboring under strangulated femoral hernia of the right side, of 56 hours' standing; has been ruptured for nearly twenty years; usually wore a truss, but for some reason, on the morning of the 5th of March took it off. An hour afterwards, while running up stairs, the hernia became strangled. Soon after it occurred, attempts by taxis, assisted by the hot bath, opium, tartar emetic, &c. were made by her attending physician, but unsuccessfully. Upon the 7th the patient was sent to this place.

From the first she was troubled with eructations, followed by nausea and vomiting, the latter becoming, on the evening of the 5th, stercoraceous. Since then, the vomiting has ceased; the nausea still exists; the tongue is white and dry; the countenance pale, anxious, and indicative of great suffering; the pulse quick, small and feeble, and the surface of the body covered with a clammy perspiration. The patient does not now complain of the pain and sense of constriction in the tumor, which is small, hard and tense, but the pain and tenderness of the abdomen are very great. She was immediately put thoroughly under the influence of chloroform, and replacement of the protruded parts patiently but vainly attempted.

The operation was then performed. Upon opening the sac the hernia was found to consist entirely of omentum, which was very dark and congested; the stricture at the femoral ring was divided; the parts returned; the wound closed with adhesive straps, and water dressing applied, over which was placed a compress and bandage.

March 8th, 7 A. M.—Slept none last night; nausea and retching constant. Ordered injection of castor oil and warm water.

12 M.—Injection returned with no fæces; tongue dry and furred; great pain in the back and abdomen; the latter very tender upon pressure; pulse small and hard. Ordered 20

leeches to the abdomen, followed by fomentation cloths; small doses calomel and opium.

4 P. M.—Pain and tenderness diminished; slept for two hours; pulse 90; mouth very dry.

9th, 7 A. M.—Rested tolerably well; complains of dryness of the mouth and fauces; nausea constant. Ordered hydrocyanic acid, gtts. 20, water, ℥iv. Teaspoonful doses every hour until nausea is relieved.

6 P. M.—Dressed the wound, which looks well; nausea disappeared; dryness of the mouth and fauces relieved by an acidulated drink.

10th.—The patient more cheerful; tongue clearing; pulse 90, and weak; has had no evacuation since the 4th. Ordered quinine and whisky toddy.

11th, 4 A. M.—Complains of great pain in the back, and dryness of the mouth and fauces; pulse 100, and weak. The medicine to be continued in larger doses and at shorter intervals; injection of castor oil and water.

10 A. M.—The injection brought away no fæces; the patient is very weak; pulse more than a hundred, quick and feeble; hands and feet cold; surface generally cool and clammy. Ordered a large dose of castor oil.

6 P. M.—The oil has caused two full evacuations; patient says she is much better; pulse about 90; skin regained its natural temperature; is hungry for the first time.

12th.—The patient still improving. Quinine and whisky toddy changed for porter and iron. From this date she continued to mend until May 10th, when a truss was applied, and the case dismissed.

Case vi.—Laryngo-tracheotomy. Peter, a slave, æt. 6, was presented April 28. The boy's mother, who accompanied him, says that on the morning of the 20th, while tossing up some lucifer matches, and catching them in his mouth as they descended, one of them slipped back into his windpipe. Immediately after this occurrence he became almost suffocated, the fit of coughing and strangulation last-

ing about 10 minutes. Then it suddenly ceased, and at irregular intervals as suddenly began again. Several times during these severe spells of violent coughing and choking dyspnœa, the patient was thought to be dying, and when put upon the operating table a fit came on, the violence and duration of which was so great as to excite fears of immediate suffocation and death. He complained of soreness and pain in his chest and along the track of the windpipe; his countenance was bloated and pulse very frequent; percussion gave out its usual clear sound; the natural vesicular murmur of the left lung was plainly heard, while in the right it was nearly entirely suspended, showing that the foreign body was lodged in the right bronchus. The patient was supported by pillows, and his head thrown as far back as possible. Chloroform having been administered to a moderate extent, the operator steadied the larynx with his left hand, and made in the middle line an incision through the skin and superficial fascia, beginning at the lower border of the thyroid cartilage, and extending it downwards for about two inches, partly with the point and partly with the handle of the knife. The two sterno-thyroid muscles were separated; the veins, which had become large and turgid in consequence of the pulmonic obstruction, were, as well as possible, pushed aside and avoided, and division of the isthmus of the thyroid body effected. The hemorrhage, principally venous, was considerable. There was, however, no difficulty in controlling it by pressure, the patient being kept motionless by means of chloroform, though at no time was perfect anæsthesia allowed—and before the windpipe was opened the effects of this agent had entirely disappeared. The bleeding having nearly ceased, the little artery which crosses the crico-thyroid membrane was pushed aside, and that tissue punctured with a sharp-pointed bistoury; a probe-pointed one was then introduced, with its cutting edge towards the sternum, and the cricoid cartilage, with the three upper rings of the trachea, divided. As soon as the opening was made the little fellow was seized with an attack of spasm

and cough, attended with much distress. From this, however, he soon recovered. The breathing became more natural, and the signs of asphyxia disappeared. By means of a pair of blunt hooks introduced into the wound, separation of its lips was easily maintained. A pair of small polypus forceps were then introduced, and attempts made to catch the match, which was several times felt to strike the instrument, as it moved upwards and downwards with the inspiration and expiration of the patient. After several unsuccessful attempts had been made, he was again seized with an attack of spasm and convulsive cough, attended with much struggling, during which, with the air and blood that whistled through the wound, the match itself came out.

The wound was lightly dressed with lint and water, and healed almost entirely by the first intention. On the 12th day he was permitted to go home. No pulmonary disease followed the operation—and three weeks ago I learned that he was entirely well.

Case vii.—Emily, a slave, æt. about 35, presented Oct. 30th. Her master says that more than eight years ago her overseer, in a fit of passion, struck her upon the head with a heavy piece of wood, producing fracture of the cranium, depression of a portion of bone, with all the consequent symptoms of compression. The surgeon who attended, not considering the symptoms extremely urgent, or the extent of the depression sufficiently great to justify an attempt at elevating the depressed portion, resorted simply to the alleviating treatment of bleeding, purging, cold applications, &c. After the immediate symptoms of compression disappeared, a perverted action of the brain followed, constituting a form of insanity. There was no settled delusion; for though the patient talked incessantly, her mind would not dwell long upon any one topic, but wandered off ramblingly, so as to lose speedily all trace of the starting point. This condition, with a perceptible tendency towards complete fatuity, continued till the present date, interrupted only by occasional

paroxysms of emotional excitement, during which it was necessary to have her closely confined and watched. Upon examining the head, there were found two scars, one smaller than the other, in the integument covering the centre of the frontal bone, opposite to which there was no apparent depression. The second was about two inches long, running from before backwards, about an inch from and parallel with the sagittal suture. That portion of the right parietal bone immediately opposite to about the middle third of this scar, presented a well marked depression.

Chloroform was given, a crucial incision made, and by means of a trephine, the depressed portion removed.

Oct. 31st.—The patient slept well during the night, and demanded her usual allowance of food this morning, which was refused; pulse natural, and face markedly indicative of mental improvement.

Nov. 8th.—The improvement of her mind continued to date. When the doctor entered the room to-day, she asked, "Are you the doctor?" "Have I been sick long?" "Why am I confined here?" &c.—giving evidence in this way sometimes of an entire return of reason. Occasionally, however, she would pass back into her former state of incessant chattering, rambling rapidly from one subject to another.

Nov. 9th.—Complains of pain in the head. Nausea and vomiting; pulse 60 and full; skin dry. Leeches and cold applications to the head; purgative.

Nov. 10th.—There is now total suspension of all mental operations; iris motionless; pupil dilated; respiration slow and stertorous; pulse 50, full and laboring. Head shaved; ice applied; leeches; a brisk purgative.

8 o'clock P. M.—The patient died by asphyxia.

Autopsy twelve hours after death.—Slightly increased vascularity in the membranes and brain opposite the wound; the rest of these structures apparently healthy; ventricles filled with large amount of serum. These excepted, there was no perceptible unnatural condition of the brain, its membranes, or its vessels.

Case viii.—Mr. B——, æt. 38, presented April 3d. In December last he received a blow from the handle of a pitchfork, which produced an extensive wound of the scalp, and long depressed fracture of the left parietal bone. This was followed by the ordinary symptoms of compression, with perfect hemiplegia, which was relieved to some extent, by raising the depressed portion by means simply of an elevator.

There exists now perfect paralysis of one arm and one side of the face. His power of articulation too is so imperfect as to render his words almost unintelligible. His intellect is much diminished, its degeneration being increased by epilepsy, to frequent attacks of which he has been subject since the reception of the injury. A scar in the integument, about three inches in length, marking the position of the fracture in the bone, extends from near the junction of the sagittal and coronal sutures, backwards and outwards over the parietal eminence.

The head being shaved, chloroform was given, and the fracture exposed by means of a crucial incision. The trephine was applied, and the depressed portion removed. The scalp was then laid down again; a few sutures and a piece of water dressing applied. The same careful attention was paid in this case as in the other, to antiphlogistic measures, both of a preventive and curative kind.

5th.—There is perceptible improvement, can move the fingers of the paralyzed arm; condition of his face and articulation better; the wound is healthy and healing rapidly.

9th.—Had to day, for the first time since the operation, the epileptic *aura*, which *was not* much to the patient's relief, followed by a fit.

18th.—The improvement of the paralyzed parts has continued; the patient is able to grasp tightly the hand of a visitor with his diseased hand; speech and face proportionally better; countenance expressive of improved intellect; returned home to-day.

Oct. 20th.—He is now able to use his hand and arm nearly as well as ever; his power of articulation is scarcely

if at all impaired; and there is no appreciable difference between the strength of his mind now and before the occurrence of the injury. Several attacks of convulsions have come on since the operation, but the intervals have gradually increased, until now he has been perfectly free from them for three months.

ART. III.—*Falck on Venereal.* By ALEXANDER BRYANT, M. D., of Prince George County, Va.

IN the August number of your journal, under the head of Medical Pathology and Therapeutics, p. 125, Dr. Fenner of New Orleans introduces a medicine as a valuable emmenagogue in the successful treatment of dysmenorrhœa, which he says his "father had gotten out of an old English work, then extinct, written by a Dr. Falk of London." The object of this writing is to correct two errors of the Doctor: first, the spelling of the author's name "Falk;" and secondly, the use of alcohol instead of sweet spirits of nitre in the formation of his "tinctura antacrida." Also, I desire to publish ten other recipes of great value, which I transcribed from the volume itself to my Formula Book.

In the year 1828 I formed a copartnership for the practice of medicine, with Dr. Walter R. Johnston, an old and skillful physician of my county, in whose library I found this old work, marked on the back, "Falck on Venereal." It was musty and tattered, contained about 300 pages, and (if I recollect rightly) was printed in London in 1743 or '53. It falling to my lot to locate at City Point on James river, and to take charge of the United States marine hospital, I gave it a very careful perusal, and formed a very high opinion of its contents. I sent all of the recipes to my friend and apothecary, Frederick Brown of Philadelphia, who compounded them very neatly for me. Syphilis and gonorrhœa

of recent and long standing, in every possible form, cases of lues venerea, which had almost completely undermined the constitution, readily yielded to the antacrid tincture and prepared calomel injections, given according to the directions of Dr. Falck. The usual routine of blue mass, balsam, cubebs, &c. I discarded altogether. In syphilis, I directed the patient to take of the antacrid tincture 15 drops in a little water or sassafras tea, three times a day, and dress the chancres with the prepared calomel powder, covered with lint, twice a day. In lues, I gave the tincture as above, and dressed the nodes and ulcerations with a plaster of the antacrid cerate. In my hands this tincture has been equally efficacious in the cure of dysmenorrhœa, leucorrhœa, and all chronic cutaneous eruptions.

The following are the eleven recipes, copied literally from the book, with directions for their preparation and application, in Dr. Falck's own language.

In treating gonorrhœa, he recommends what he calls

Antispasmodic Powder.

℞ Nitrat. potass, ℥j; cinnabar of antimony, ℥ij; sub. m. hydrarg. ℈i. Let the cinnabar and calomel be levigated with a little water to an impalpable powder, and dried—then add the nitre—make into a mass, and divide into xxiv, eq. Give one every morning and night.

To aid the above powder, he gives the following, which he calls

Antacrid Injection.

℞ Sub. m. hydrarg. ℥j or more. Levigate it on a marble with a little water, till it is very fine, or that it will readily suspend in water; put it in a convenient vessel with plenty of water; stir it about; let it settle till the water is quite clear; then decant the water; dry the calomel gradually, and keep it for use.

Of this prepared calomel, take one scruple thus:

℞ Calomel, ppt. ℈j; aq. font. M. This to be shaken, when made use of, and injected once, twice or thrice a day, after the patient has made water. In women, this injection not only cures the most inveterate purulent gonorrhœa, but it is equally efficacious in the cure of fluor albus.

Restorative Tincture or Balsam.

℞ Bals. canadensis, ℥iij; gum guaiac. ℥ss; spts. recti. vini. Ibj. M. Digest with a small heat, and shake frequently. When the whole is settled or separated, pour off the clear tincture; then add to this, of the oil of peppermint, ℥ij, which, if pure, will incorporate. Dose, a teaspoonful, either by itself or in wine or water. Where there is much feebleness in the system or flaccidity in the solids or muscular fibres, the above is recommended.

Cathartic Pills.

℞ Gum gamboge, sacch. alb. aa, ℥i; sub. m. hydrarg. ℈j; ol. cinnamon, gtts. ij. M. Divide in pilul. xl. Roll them in a box with some fine factitious cinnabar. Dose, one, two or three. These pills are good for sluggish constitutions; very active in the maw of a glutton; clear the house at both doors of all the evil spirits, and impose health on the brute, whether he will or not.

Antacrid Cerate.

℞ Oxy. hydrarg. rubr. ℥ss; sub. m. hydrarg. ℥ij; acetas plumb. ℥j; cera alb. ℥iv; ol. florent., ℥vj; ess. bergamot, gtts. xx. M. Levigate the precipitate and calomel upon a flat marble with some water, as fine as possible, and dry it; then levigate it again in a marble mortar, with the sugar of lead, till it is thoroughly intermixed; melt the wax and oil over a gentle fire; incorporate the ingredients and the ber-

gamot; stir the whole till it is cool, and of proper consistence. This cerate is useful in all cases of exulcerations or cutaneous disorders—all venereal maladies. It may be applied without any restraint or regard to the parts affected, a capite ad calcem.

Mercurial Ointment.

℞ Axungiæ, ℔j; purified quicksilver, ℔ss; diachalon, ℥ij. Incorporate the diachalon with some of the lard, only enough to triturate the quicksilver; which continue till the globules disappear; then mix the whole carefully together; a drop or two of bergamot may be added.

Antiphlogistic Liniment.

℞ Ext. lead, mercur. ointment, antacrid cerate, aa, ℥j. M. Paraphimosis—scalding, burning erysipelas will generally yield to this liniment spread on lint, and there is no better remedy for piles.

Volatile Mercurial Liniment.

℞ Ung. hydrarg. ℥j; ol. sassafras, gtts. xx; gum camphor, ℈j; vol. spt. sal. ammoniac, ℥ss. Reduce the camphor to an impalpable powder, and add first the sassafras; then the ointment, which, when incorporated, add the volatile spirit gradually, and make into a liniment. It will speedily reduce œdematous swellings.

Antiputrescent Gargle.

℞ Acetic acid, aq. rosar. aa, ℥iv; nitrat. potass, sulp. alumin. aa, ℥ij; mel. despumat. ℥iss; corros. sublimat. grs. v. Dissolve the sublimate previously in the rose water, and then let the whole be thoroughly intermixed. This gargle is efficacious in not only venereal sore throats, but in all other cases of a malignant character.

Universal Ophthalmic Water.

℞ Corros. sublimat. gr. 1; aq. pluviæ, ℥iv. M. Let it stand twenty-four hours; then pour it off from its sediment. Of this, drop one or two drops in the eye at a time; to be repeated as often as necessary—which removes films, inflammations and excrescences that may be externally on the horny coat.

Antacrid Tincture.

℞ Spts. nitr. dulc. ℥viij; balsam canadens, gum guaiac. aa, ℥j; ol. sassafras, ℥ij; corros. sublimat. ℈j. Dissolve the mercury in half the nitre; in the other half dissolve the balsam and guaiac.; then filter and mix; then add the sassafras, which, if pure, will immediately incorporate.

It will be seen (as I remarked in the beginning), that the above recipe differs from the one given by Dr. Fenner, in having for its menstruum, sweet spirits of nitre instead of alcohol.

Since I commenced the duties of my profession, I have never been without these medicines in my office; and I am happy to say, that an experience of thirty years, in an extensive practice, confirms all, nay more, than has been written in their commendation by the author. I have not confined their application to the particular cases enumerated above, but have extended their use, in all diseases of a kindred character, with the most satisfactory results. I know of no role of medicines, in the wide volume of therapeutics, so valuable; and to preserve and bring them into general use, I would claim for them a position in the next edition of our Dispensatory, and hope that they may be found among our officinal standard preparations upon the shelves of every apothecary. Soon after the expiration of our union, Dr. Johnston moved to Mississippi, and carried with him this

good old book, a reprint of which I would rather see than any other work on the same subject now extant. In my frequent visits to Philadelphia, I have made diligent enquiry at the principal publishing houses and medical book stores in vain, to find "Falck on Venereal."

ART. IV.—*Impaired Vision, Deafness, and Paralysis of the Muscles of the Left Side of the Face, relieved by Removal of a Bony Tumor on the Os Frontis, with the Trephine and Hays' Saw*—By Professor CHARLES BELL GIBSON. Reported by JUNIUS MICHIE, M. D., Resident Physician at the Infirmary of the Medical College of Virginia.

FRANCES BLACK, aged 22, admitted November 24th, 1858. General health quite good. She has a bony tumor, about the size of an hen's egg, growing from the right os frontis, near the coronal suture. It was first noticed about four years ago, since which time it has gradually been enlarging. The muscles on the left side of her face are partially paralyzed, and the vision of her left eye is very imperfect. It is with great difficulty that she can masticate her food, cannot close the left eye, is deaf on the left side, and has constant headache, which is very painful. She is the mother of two children, the youngest now at the breast. During her first confinement she came very near dying with convulsions; she had nothing of the kind at the birth of her last child, as her accoucheur bled her several times before she was confined.

30th.—To-day, Dr. Gibson operated on her for the removal of the tumor. After shaving a portion of her head, he made a crucial incision down to the bone, and then applied a large trephine over the most prominent part of the tumor, and removed the bone down to the *dura mater*. Finding that the woman could nearly close her eye, he concluded to remove more of the bone, and used Hays' saw for the pur-

pose. He marked off four lines, each about half an inch from the edge of the opening made by the trephine, and after sawing down to the *dura mater*, removed the included bone.

The effect of the operation on the paralysis was very marked. Before she was placed on the table she could not close the left eye; neither could she draw the mouth towards the paralyzed side. After the removal of the bone she could close her eye almost entirely, and had much more control over the muscles of the left side of her face.

After all hemorrhage had stopped, the flaps were brought together with adhesive straps, and cold water dressing applied.

The operation was performed without the use of chloroform. At night, ordered hydg. sub. mur. grs. vi, pulv. ipecac, gr. ss, every four hours. She took three doses of the medicine.

Dec. 1st.—She rested very badly last night, and has very bad headache this morning; pulse 96, and firm; skin quite pleasant; tongue natural. ℞ Sulph. magnesia, ℥ss, to be taken at once, and continue the water dressing.

At 12 o'clock her pulse was 120, and quite strong. I ordered tinct. verat. viride (Norwood's), gtts. iij, every two hours. The first dose reduced the pulse twenty pulsations.

2d.—A good deal better this morning. She took nine drops of the veratrum yesterday, and three drops this morning at 6 o'clock.

At 9 o'clock, her pulse was 84, with *plenty* of strength; skin very pleasant; tongue slightly coated with a white fur; slight erysipelatous inflammation of the scalp and face; pain in her head very much diminished; she slept about two hours last night. I gave her tinct. hyoscyamus, ℥j, but it had no effect. Bowels were open yesterday.

About 2 o'clock, her pulse became rather frequent, and I gave veratrum, gtts. iij, which was repeated at 6 in the evening, and again at 9.

During the night she took ext. hyoscyamus, grs. iij, but it

had no effect on her, as she slept none after taking the medicine.

3d.—A good deal better; pulse 85; skin pleasant; headache not so bad; facial swelling diminished; she slept about two hours last night.

4th.—Doing very well this morning; pulse natural; skin pleasant; very little headache; swelling very much diminished; bowels open; rested quite well last night. She took two doses of the veratrum yesterday—one dose at 1 o'clock in the day, and another at 12 o'clock at night. I removed the straps from the wound yesterday, and partial union had taken place. The wound looks very well.

At 10 o'clock she had some fever, and I gave veratrum, gtts. iij.

5th.—Doing very well this morning; not a particle of fever; she slept very well last night; head nearly easy; very little swelling about her head and face. Wound looks very well. ℞ Sulph. magnesia ℥ss to-day.

6th.—Doing very well.

7th.—Moderate headache; bowels not open; no fever. ℞ Hydg. sub. mur. grs. viij; pulv. jalap, grs. iv—to be taken this morning.

8th.—Has a good deal of headache to-day; the wound is suppurating very freely; no fever this morning; rested very well last night. She continued to do well up to the 6th of January 1859. At that time the wound on her head being entirely well, she was discharged.

I think it will not be uninteresting to the readers of the Medical Journal to state the condition of the patient (whose case I am reporting) when she left the infirmary, as compared with what it was when she came into the institution. It will be recollected, that the patient could not masticate her food properly. Now she has perfect control over the muscles of mastication. Vision was very imperfect in the left eye. She now sees as well as she ever did. Hearing is restored completely on the affected side. She had constant headache. Now she is never troubled with it. She had no

power over the upper eyelid of the affected side. She can now close her eye almost entirely. The operation certainly relieved her very much.

The treatment of this case was very simple—a few grains of calomel and jalap, before fever commenced, an occasional cathartic, and Norwood's tinct. of veratrum viride. The effect of this last mentioned remedy was peculiarly marked in the case.

TRANSLATIONS AND SELECTIONS.

I. *Some Principles of Animal Psychology.* By D. F. Weinland. Read before the American Association, at the Baltimore Meeting, May 1858.

The true difference between plants and animals consists in this, that animals have a consciousness of an outer world, while plants have none.

We are accustomed to distinguish animals from plants by their being endowed with free, that is, voluntary locomotion, and with feeling. Linnæus long since said: Saxa crescunt, vegetabilia crescunt et vivunt, animalia crescunt vivunt et sentiunt. A certain kind of feeling however cannot be denied to some plants, for instance to the mimosa. As to the "voluntary" motion, which modern handbooks generally consider as the standard difference between plants and animals, I shall try to show that the term voluntary is far better replaced by the term "conscious of an outer world." What is it that strikes the microscopist as vegetable nature in the navicula, and as animal nature in the monas? Both move, but the navicula in its steady onward course runs foul of every obstacle that crosses its way, while the monas dodging with ease and dexterity, finds its winding way through a host of obstacles, apparently without touching one. It is this evident consciousness of surrounding objects that characterizes the animal.

The consciousness of an outer world is the fundamental principle of the soul of animals. The consciousness of self,

of the ego, which is rather obscure, even in the highest animals, as it is also in the human child, is proportionate to the consciousness of an outer world; it is a result of the latter, for it is only in opposition to an outer world, that the animal conceives itself and becomes conscious of itself. The degree of psychical development in different kinds of animals may be judged from the degree of development of the consciousness of an outer world. The soul of an animal is the higher, the more relations it has to the outer world, that is, the larger the horizon of its outer world. The latter point I will explain with some illustrations taken from the lower animals, in which the psychical life is more simple, and therefore easier to understand.

What is the outer world of a coral-polyp? With hundreds of its kind it lives on the same coral-stock; it is there fixed, and is able to move its mouth and tentacles only; thus it awaits its prey, a little craw-fish, without eyes, and without touching it—by a sense unknown to us—it perceives the presence of its prey, throws out its lasso-cells and catches it. Every individual has both the sexes united. Though closely crowded together, I never could notice a trace of psychical relation between the polyps of the same stock. What is the outer world of such a polyp? The whole range of its psychical life is evidently confined to the objects of food.

Let us now rise one step higher, to a helminth, an ascaris, that inhabits the intestine of some vertebrate. In regard to feeding it stands evidently on the same, perhaps on a lower level than the polyp, but still we must rank it psychically higher! The sexes are divided, and in the line of reproduction the male and the female individuals meet each other. There is therefore, besides a consciousness of an outer world in regard to food, evidently also a consciousness of other living individuals, although that consciousness may be dark enough.

We may take a bee, a wasp, or any of the social hymenoptera, as a third step. In the bee the consciousness of the existence and the interest in other living individuals is not confined merely to the season and to the instinct of reproduction, but to the whole life. At any time the individuals of the bee-hive know each other, give each other signs, help each other, fight for each other. It is evident how much more varied the relations to the outer world, how much more extensive the latter is for a bee than for an ascaris, and still more than for a polyp.

In order to judge how extensive the outer world is, of which an animal is conscious, that is, in order to judge about

its psychical horizon, we must investigate the organs of that consciousness, that is, the psychical organs of animals.

The psychical organs of animals are of three kinds:

1. Receptive organs, organs which receive impressions from the outer world; here belongs the whole skin-system, including the senses.

2. Reflective organs, that is, organs which combine the impressions received by the receptive organs; here belongs the central nervous system.

3. Reactive organs, that is, organs which react upon the outer world; they are the servants of the central nervous system, which go from within outward while the receptive organs go from without inward. These reactive organs consist in the whole system of voluntary muscles, with the bones which belong to them.

The student of animal psychology has mainly to depend upon the third kind of organs, namely, the reactive, not only because the functions of the receptive and reflective organs are more or less hidden, but also because their functions are in fact the mirror of the whole psychical life of the animal, being also the resultants of the functions of the receptive and reflective organs.

The functions of the reactive organs are the voluntary motions. When observing these motions in an animal more closely, we soon perceive two kinds of motions, which are in their ends entirely different.

Let us look at a dog. We see in the first place, that it makes many motions, which have no other purpose than to satisfy the ego of the dog itself. Such are the motions by which it eats, drinks, etc. These motions we call subjective, as having reference exclusively to the ego, to the subject of the dog itself. But besides these, we see other motions in the dog, which have no immediate reference to the ego of the dog, but to other dogs, or to men; we see motions of the head, the eyelids, the tail, of the whole body, by which the dog would show to other dogs or to his master, what it thinks, feels or wants. This second kind of motions I propose to call sympathetic motions.

The subjective motions are common to all animals and must be so. We have seen them in the polyp, and we see them in man. They are, generally speaking, the same throughout the animal kingdom. But the greatest diversity exists in regard to the sympathetic motions with different animals, and it will be evident from the following illustration, that the degree of their development is the principal standard for the student of animal psychology. The more

the organs for sympathetic motions are developed, the more extensive is the outer world of which the animal is conscious, and the larger is its psychical horizon.

Let us compare a fish, a lizard, a monkey, and finally man, in regard to the organs for sympathetic motions. The fish lying horizontally in the water, its head, neck, trunk and tail forming one continuous massy body; its eyes cold and stiff, turned sidewards, nearly immovable; no voice; hardly traces of an ear—what organs has this animal to show to its fellow-creatures the processes of its soul?

How different a spectacle offers a lizard to the thinking observer! Its body raised upon four legs; a distinct neck, upon which the head plays freely, thus giving at once to the eyes a horizon not only towards the sides but also upwards and downwards. And how expressive are those eyes! their expression mainly lies in the play of the eyelids (of which the fish is destitute), so that from the eyelids alone an experienced observer will perceive, whether the lizard is contented, or sad, or enraged. The tongue, which in the fish is a mere organ for swallowing food, is in the lizard a true organ of sympathetic motions, for we often can see them licking at each other in play or in love. The ear is well developed; they like music and some of them have a voice, as those well know who have spent a night in a virgin forest of the tropics.

I will not dwell upon the intermediate degrees of psychical organization as exhibited in birds and the lower mammalia, but consider next the monkey. How rich at once the organization for sympathetic motions. The front legs—in the lizard mere locomotory organs—are in the monkey arms with which the mother embraces the young. The foot, a mere organ of support in the lizard, has become a hand, with which he grasps the hand of his mate. The lips, of which there is no trace in the lizard, are in the monkey very perfect organs of sympathetic motions. With the lips and the whole play of the muscles of the face, with the eyelids, with the tongue, with sounds, etc., the monkey shows to his fellow creatures what it likes and what it hates, what it wants and what it thinks.

Finally, let us consider man. The natural position of the monkey is on four legs; in consequence, his head is naturally half bent downwards, thus confining the horizon of his eyes, and his front legs though used as arms are at the same time still organs of locomotion, mainly of climbing. On the contrary, man standing upright on his legs has his arms and hands free, they are perfect organs of sympathetic

motions, locomotion being confined to the lower extremities. His head stands free upon the neck, thus giving to all the senses and particularly to the eyes the largest possible horizon. His eye is the mirror of his soul in which the fellow-man reads the innermost thoughts and feelings. His lips, tongue, and the whole apparatus of the larynx produce by their motion the most perfect of all sympathetic motions, language. These and many more not less interesting points are suggested by a comparison of the organs for sympathetic motions, and from the facts principles of practical importance for educational purposes may be derived; but what I have mentioned is sufficient illustration of the truth that owing to the great perfection of organs for sympathetic motions, the relations of man to his fellow beings are far the most diversified and at the same time the most intimate, not only to his fellow beings but to the outer world generally. Whatever our civilization has performed, has been done by improving these natural psychical organs. The outer world of the polyp is confined to the objects of its prey, the outer world of the civilized man is the universe. Our steam vehicles on land and on sea, what else are they than improved organs of locomotion? our letters, our books, our journals, our telegraphs, what else are they than organs of human language on a more extended scale? our telescopes, our microscopes, what else are they than the receptive sense of the eye extended? Thus all the inventions of our civilization tend to enlarge the horizon of the individual man. And this is the true destiny of man. I do not know of a greater motto or life-principle than that which was written on the temple of the oracle of Delphi in ancient Greece: *Gnothi seauton*, "Know thyself;" but another is equally great, written by Wilhelm von Humboldt, the great philologist (brother of the author of the Cosmos), it is this: "I wish to leave when dying as little as possible behind me in this world, with what I have not come in contact," that is what I have not mastered with my mind. Humboldt wanted the most perfect knowledge of the outer world, while the Greek philosopher wanted the deepest knowledge of himself. One of these sentiments is only the reverse of the other, or rather it follows immediately from the other. The most thorough knowledge of the outside world involves the deepest insight into ourselves; just as in morals, he who loves his neighbor the truest is the happiest, and thus loves himself the truest.

II.—*Transfusion in Yellow Fever—A Successful Case.* By N. B. Benedict, M. D., of New Orleans. (N. O. Med. News.)

Messrs. Editors—In consequence of the pressure of indispensable engagements, I am able to furnish you only a brief outline of the circumstances attending the case of transfusion which was successfully practiced in this city on the 25th of October last.

The patient, Miss J. B., was a young lady whose life, until early womanhood, was passed in northwestern New York, whence she removed, in 1845, to Mississippi, and thence, in 1854, to New Orleans, where she has constantly resided during the past four years—never having suffered any serious illness within the last fourteen years.

On Monday, October 11th, she was exposed to a drenching rain, but felt no alarm at the sensations which followed (supposing them to be merely those of a bad cold), until the evening of the following day, when she was seized, at 9 o'clock, with a violent chill. The symptoms of yellow fever—the pains in the head, the back and the limbs, the flushed face, the fiery-red eye, and the rapid pulse—could not have been more characteristic than in this case. It proved unusually obstinate—the treatment exerting little influence upon any of the symptoms, during the first stage of the disease. My near relationship to the patient induced me, on the third day, to request the assistance of Dr. C. B. White. On the fifth day the counsel of Dr. Wm. E. Kennedy was requested, and both those gentlemen continued their attendance, daily, throughout the course of the disease. On this fifth day there was some bleeding from the mouth, but the flow was moderate, and occasioned no alarm. On the sixth it continued, but was so slight as to be regarded as marking a favorable tendency. The average pulse, on these two days, was 86—ranging from 80 to 92. On the morning of the seventh day the eye presented an appearance as if a drop of serum had collected in the outer canthus; the bleeding from the mouth had increased, and the appearance of the napkins employed to absorb the blood, agitated her excessively; but at the mid-day visit, although the hemorrhage was unabated, yet so much had the complexion improved, that the impression on the minds of the medical attendants was, upon the whole, favorable. The hemorrhage increased until a late hour in the evening, being aggravated by the uncontrollable perseverance of the patient in wiping away

the clots. It suffered a slight check during the night, but returned on the following morning. Throughout the eighth, and most of the ninth day, it continued without abatement; and her efforts to clear the mouth by hawking, rinsing, spitting and wiping, not only increased the flow, but occasioned great fatigue. To prevent these efforts, except by a resort to unjustifiable force, was impossible. The effects of such protracted hemorrhage were apparent in the blanched complexion, the colorless lips, tongue and gums, and the pinched features; and serious alarm began to be felt at a loss which resisted all the measures employed to restrain it. Some estimate may be formed of the quantity lost, from the fact that, in the single night of the eighth day, the blood, diluted with saliva, saturated two sheets, so that no part of them remained unsoiled. Added to all this was the hemorrhagic tendency manifested by other mucous surfaces besides those of the mouth, during these two days. Towards the close of the ninth day, the hemorrhage from the mouth was several times interrupted for short intervals; but owing to the discomfort caused by the clots, she provoked its return by removing them. About 8 o'clock P. M. she had a sudden imperfect syncope. Thenceforward the bleeding became very slight, and although nourishment and stimulants were retained, the complexion was much blanched, and the mental condition was that of utter despair as to recovery. The rate of the pulse was steadily accelerated; the average for the seventh day being 98, for the eighth and ninth days 104, for the tenth day 115, and for the eleventh and twelfth days 120.

On the tenth day there was much complaint of soreness of the throat, the tongue, and the inner surface of the lips (which were found to be invaded by small superficial ulcers); of severe pains in the sides of the head, at the tops of the ears; of morbid sensations—at one time, as if ashes filled the throat—at another, as if the feet were much more elevated than the head; and there was uncontrollable desire to talk of affairs and of interests the most foreign to a sick room; yet, all was perfectly rational. In the course of this night, the hemorrhage ceased, and did not again return. The eleventh and twelfth days were characterized by a continuance of those nervous vagaries, and by the increased frequency of the pulse to 120.

At 3 o'clock in the morning of the thirteenth day she had profuse perspiration, and a paroxysm of hysterical weeping. The general surface as well as the extremities were cold and clammy to the touch; the pulse so feeble and so rapid as not to be counted; and the restlessness and desire to toss

about the limbs, was excessive. Under the use of stimulants, this condition was relieved, the natural warmth was restored, and she fell asleep. At 7 A. M. the pulse had receded to 112, and was regular though feeble; and nearly every portion of the surface—the limbs as well as the trunk—was found to be covered with sudamina. At 10½ A. M. the apparent amendment was so marked that the medical attendants were more hopeful than on any previous occasion. The pulse had fallen to 108. From the sixth day to this time, nourishment and stimulants had been taken in quantities such as to encourage the belief that the terrible waste of blood would be repaired by the ordinary process of assimilation. At 11½ o'clock she awoke from a quiet sleep, complained of strange and bad sensations, and said she thought she must be dying. She presently turned upon her side and was suddenly seized with vomiting, which continued throughout the day and part of the following night. Nothing was retained by the stomach, with the single exception of brandy, and even that only occasionally. After mid-day, an enema of mustard and water was given, but did not return. It was followed by other enemata of warm water, with no result except distention of the abdomen. The sinking and prostration were excessive; the pulse was scarcely perceptible, yet its frequency was not found, at any time, to exceed 108; and she exhibited a constant tendency to lapse into stertorous slumber. Over the whole region of the aorta was distinctly heard the bellows-sound so characteristic of anemia. Injections of beef-tea, brandy and carbonate of ammonia were repeatedly given, only to be rejected; but the action of the bowels seemed limited to the rectum. At every movement of the body distressing hiccough occurred, convulsing the whole frame, and lasting on each occasion about a minute. A sinapism applied to the spine was succeeded by arrest of the vomiting at 10 P. M., but there was no other improvement throughout the night of the thirteenth day.

On the morning of the fourteenth day a stimulating enema was followed by discharges resembling coffee-grounds, and by relief of the distention, but there was no amelioration of the symptoms, which steadily tended towards the fatal close. The mortal restlessness increased, the pulse became but the merest flutter, and was, much of the time, inappreciable, and its number could not be ascertained.

At the morning consultation, Drs. Kennedy and White declared their conviction that she could not possibly survive for more than three or four hours. I then said, "It is an

old saying that 'drowning men catch at straws.' For the past twenty-four hours, I have been in torture with the thought of such a straw, and I cannot refrain from naming it: I mean transfusion. These fatal symptoms being occasioned by the loss of the last few ounces of blood, I cannot persuade myself that it is not a serious duty to inject into her veins a few ounces of fresh, healthy, living blood, as nearly as possible identical with that which she has lost." Both those gentlemen promptly embraced the suggestion that it was the only remedy that could save her life, but thought it impracticable, for want of persons experienced in the operation, and a suitable apparatus. Having in 1853 prepared a report on transfusion (which was read before the State medical society, and a part of which was printed in The New Orleans Medical and Surgical Journal for that year), I had become imbued with the conviction that the operation is one which, on certain occasions, cannot be withheld without criminality; and I had obtained from England the apparatus for the purpose, which was approved by the father of transfusion, Dr. James Blundell, formerly "lecturer on midwifery and physiology at Guy's hospital." The possession of such an instrument at once gave form to the proposition, and it was determined that if a person could be found who would undertake the most difficult and delicate part of the process—that, namely, of preparing the vein of the patient—the operation should be attempted. A little past the hour of noon, there were assembled at my house, Drs. Wm. E. Kennedy, C. B. White, C. C. Beard, D. W. Brickell and L. Greenleaf. The apparatus was examined, its use described and illustrated, and every part of the process was fully explained and discussed. The task of preparing the vein was undertaken by Prof. C. C. Beard. An incision about two inches in length was made over the median vein in the left arm. A director was passed beneath the vessel, near the lower part of the incision, in order that it might be held under perfect control, and the loss of any blood from its distal extremity be prevented. An incision was then made into the vein, immediately beyond the director, to receive the beak of the syringe. It is due to Prof. Beard to say that nothing could exceed the skill and steadiness with which this operation was performed. The blood was obtained, by the assistance of Dr. Greenleaf, from the arm of a young gentleman who exhibits a remarkable example of perfect health, and who had experienced yellow fever during the epidemic of 1853.

It was my purpose to use the apparatus myself; but as

the moment approached, my near relationship to the patient made me distrust my firmness, and I requested Prof. Brickell to take my place. He consented to do so, but substituted for the syringe belonging to the apparatus, one of simpler construction, into the beak of which he absorbed the blood as it flowed into the receiver of the transfuser. By inverting the syringe and pushing upward the piston, the last bubble of air was expelled. The beak was then introduced, by Dr. White, into the orifice of the exposed vein of the patient, and Prof. Brickell, with consummate care, passed the blood into her arm, before it had time to cool or even to repose for more than a few seconds. All the apparatus employed was immersed in warm water, or wrapped with heated cloths, so as to prevent any reduction of the temperature of the transfused blood. The operation was commenced at a few minutes before 1 o'clock, and was finished safely and satisfactorily, in all respects, a few minutes past that hour.

Another person who was constantly with her, writing to a distant friend, used the following language: "There is no doubt that death had begun his work, before this took place. Her extremities were cold; she swallowed with difficulty; her nose had the pinched look of death; her lips were depressed and bloodless, covered with a yellow, dry, parched skin; and her distress was very great. The effect of the transfusion was immediately apparent in the calming of the nervous system. The next morning her lips were full and red; I picked off the yellow parched skin, and found them as natural as health; and she had no subsequent bad feelings except dryness of the mouth, and stiffness of the muscles of the throat. She was like a new creature, and was saved."

I will merely add to this statement that the pulse, which at half past 12, under the influence of mental excitement, became once more appreciable, numbered 136, and immediately before the operation, 125; at its termination it was 120; and three hours later it remained the same, but had acquired more fullness and strength. The voice recovered its natural tone, the face acquired color, the extremities grew warm, all nausea and hiccough ceased, and ordinary drinks were perfectly retained. From the time mentioned, to the present hour, her recovery has been uninterrupted. Her health has long since ceased to be a subject of any anxiety.

It was not doubted, at the time of the operation, that the quantity of blood injected was equal to three and a half ounces. It was afterwards ascertained, by accurate measurement of the syringe, that its capacity was not quite

equal to two and a half ounces. Small as the quantity was, it yet sufficed to turn the scale in her favor.

I have thus, Messrs. Editors, endeavored to give a plain statement of the facts as they occurred. I have been the more particular in these details, because I am informed that an erroneous impression has, to some extent, prevailed that I was the sole operator. The error is attributable to ignorance of the complicated nature of the operation, and to misconception of the flattering notices which appeared in a daily paper of this city, shortly after the event. Transfusion was not adopted without the consent of men who are among the first in the profession; and I venture the assertion that it never will be safely performed, on the human subject, without the assistance of four medical gentlemen at least. Nothing could be more mortifying to me than the acquiring of professional distinction by any means but such as are recognized by the medical profession as legitimate, unless it should be the acquiring of distinction which is unmerited. I trust that you will appreciate, therefore, the propriety of these explanations being made in your journal, inasmuch as justice required details which are improper in a newspaper.

Were the true nature and the statistical results of the operation of transfusion generally known, its performance would be demanded in many cases which are now consigned to a remediless doom. There is no fear that it will ever come to be employed as one of the common remedies. It is applicable to no pathological condition save that which is commonly called "collapse," induced by hemorrhage, by certain exhausting discharges, or by utter inability to receive or retain nutriment; and the only transfusion now sanctioned, either by physiology or by common sense, is that of human venous blood into human veins, identical, as nearly as possible, with that which has been lost, and in quantity just sufficient to arrest the tendency towards death. Prior to the year 1853, the total number of recorded cases, practiced under these conditions and restrictions, amounted to twenty-one. Of these, but two died—or less than one case in ten!

If I have any merit in this affair, it is that I have been, for many years, the earnest advocate of transfusion, in those cases where alone it is proper; that I have labored to make it binding upon the consciences of medical men to practice transfusion whenever it is justifiable; that I have approved my faith in it by submitting to it, as the first instance which I am apprised of in America, a person whose life is dear to

me as my own; and that before it was attempted I seriously declared to those professional friends, heretofore named, my willingness to take upon myself all the odium that might attach to a failure. I feel that I can never sufficiently thank those gentlemen for what they did for me in this the bitterest trial of my life; and that they have thus laid upon me new obligations of fidelity to the principles of our noble profession.

New Orleans, November 27th, 1858.

III. *On the Comparative Influence of the Male and Female Parent upon the Progeny.* By J. B. Thomson, L. R. C. S., Edin., Resident Surgeon, General Prison, Perth.

The following cases appear to me illustrative of a very curious and not unimportant chapter of anthropology, viz: "The comparative influence of the male and female of the human family upon their progeny"—a subject upon which very crude and indefinite notions are held, not only by the public, but by the members of our profession. It is a settled point with many, that it is foolish to search after any laws regulating the transmission of particular textures, features and constitutions from either parent to the offspring. These philosophers are satisfied with the unsatisfactory views of the poetical Lucretius:

> "Fit quoque, ut interdum similes existere avorum
> Possint, et referant proavorum sæpe figuras,
> Inde Venus varias producit sorte figuras
> Marjorumque refert voltus vocesque, comas-que."

While it is admitted that we can found little upon mere supposed general, physical or psychical resemblances, I think the method of enquiry followed in this paper, is a correct one, and that a number of individual instances of the transmission of abnormal peculiarities from parent to progeny being accumulated and balanced, will lead to a safe and scientific induction.

Mercatus, in his work, "De Morbis Hereditariis," says truly, that the parents, grand parents and great grand parents transmit quality, character, form and structure, proportion and disproportion, or any preternatural condition of a single member or organ, part or parts. Of this statement there can

be little doubt. We may go further, and affirm that, where we find such irregularities and defects plainly appearing in one parent, and reappearing in any of the offspring, such irregularities or defects are due to the influence of that parent. The order of causation is not to be questioned. And, further, when striking abnormal conditions, physical or mental, are transmitted in families, the statistics of such should form data upon which to found a proof whether and in what proportion the influence of the male or of the female predominates. Beginning with physical peculiarities of the external structure, transmitted from parents to their progeny, let us examine "the transmission of skin peculiarities."

Case I.—*Hereditary transmission of webbed fingers.*—A. M., Alva, has had a family of 9 children, 5 sons and 4 daughters. He himself and his 4 daughters are webbed betwixt the middle and ring fingers, or close-fingered, as their mother calls it, i. e. the skin stretches across and unites these fingers together. None of the sons have this peculiarity. A. M.'s grand father had the same; also his mother and two sons and one daughter; his uncle, two daughters and one son, this son having all the fingers of both hands webbed together. A. M.'s daughter has one daughter webbed betwixt the middle and ring finger of both hands.

Case II.—*Hereditary transmission of webbed fingers and toes.*—(This case, from a recent number of the Lancet, is so similar to the former, that I make no apology for transferring it to this paper, for the sake of illustrating my argument.) W. S. has three fingers united throughout by skin, viz: the middle, the ring, and little fingers of both hands. His mother has the same, but W. S. is the only one of seven children so malformed. Her uncle (her father's brother) had the same, and her paternal grand father had the three smaller toes on each foot similarly united.

Case III.—*Hereditary transmission of extra fingers and toes partially webbed.*—J. B., Menstrie, has a daughter with six toes on each foot, the little toe and its neighbor being well webbed; also two little fingers on each hand partially adherent by skin. J. B.'s great grand father had the same number of toes and two little fingers on the left hand also partially webbed. No other member of this family can be traced to have had any abnormal physical conformation.

Case IV.—*Supernumerary toes and fingers webbed.*—J. R.,

Tillicoultry, has the following peculiarities in his family, viz: 1 girl webbed betwixt the little toe and its neighbor; 1 son with 2 little fingers on each hand and 2 little toes on each foot. No hereditary trace of these peculiarities can be found in any of the ancestors of this family, unless we admit the account of the mother as the true cause. She says, that when she carried this boy in utero, she met with an accident which split her little finger in two, so that it always afterwards looked like two fingers.

From the small number of cases now set forth, it would be unsafe to draw any strong proofs, lest we should be placed in the category of the philosopher in Rasselas, who was always coming to conclusions without any thing being concluded. But, although we admit that such a small number of cases is not proof positive, we must allow that they point to the following deductions, viz:

1. That the male parent has a principal share in the transmission of hereditary skin peculiarities to the offspring.

In case I, we have a grandfather, a father and an uncle sending down an abnormal condition directly through the male line; and a striking resemblance to the male parent belonged to all those descendants who inherit this skin peculiarity. On the other hand, we have a grand mother and a grand daughter transmitting the same directly to their children.

In case II, the paternal grand father, and in case III, the great grand father, was the original progenitor, to whom the physical malformations were traced back. Leaving out No. IV, where the origin is very doubtful, we have the following proportional cases, in which the immediate influence of the male exceeds that of the female parents:

Case I.—Transmitted immediately by	Male,	10—	Female, 4.
II.	"	3	1
III.	"	2	0
		15	5

But these cases point to another interesting deduction:

2. That the skin peculiarity in all these cases, where it could be traced back, had its origin in a male progenitor. In No. 1, it came in with a grand father; in No. 2, with a paternal grand father; and in No. 3, with a great grand father. A curious question here arises: Did the influence of the originator of this malformation extend itself through several generations who bore his peculiar characteristics? Is it true, as Dr. Harvie has recently asserted, that the male

is the real producer of the species? Is it true that the influence of the male (in certain instances) extends beyond the first impregnation?

The consideration of these cases, which show the influence of the male to be greater than that of the female parent in the transmission of skin peculiarities, led me to look at the history of certain skin diseases which are hereditary, and the following instances occurred to my recollection:

Case of the porcupine family.—The original porcupine man, Edward Lambert, had 6 children and 2 grand sons, with the same singular skin as himself, resembling, it is said, an innumerable company of warts, of a dark-brown color, and a cylindrical figure, rising to an inch in height. In this case, the disease originating in a male, continued to all the family of 6, and descended to the grand children.

Leprosy, too, seems to be chiefly derivable from the male parent. In Dr. Simpson's curious enquiries into the history of leprosy, we find quoted from the old Burgh Records of Glasgow (1589), "Robert Bogell, sone to Patrick Bogle," both lepers in that city.

The modern experience of this malady in Norway, where it has so unaccountably increased of late years, has led to serious enquiry how it is to be prevented. Leprosy, or the spedalkshed is held by Drs. Boeck and Danielson to be purely hereditary; and so strong is the opinion of the male being the chief propagator, that the proposal has not only been laid before the Storthing or Norwegian Parliament to prohibit the marriage of a leper, but it has been a topic of public and professional discussion how far it would be just to deprive the male infants of leprous parents of the power of propagation. Ligature of the vasa deferentia, we learn, has been seriously contemplated as a national measure.

The analogy of the lower animals confirms these views of the paramount influence of the male in transmitting generally the character of the skin to the progeny. The spawn of the salmon being impregnated with the male trout, the skin and the spots upon it showed the characters of the trout, and vice versa, the salmon being the male. With birds, generally, the outer textures follow the male parent. With quadrupeds, the same rule holds. An intelligent and experienced sheep farmer informs me that it is the practice to cross the blackfaced sheep on the Ochils with the Leicester ram. The Ochil ewes are blackfaced and have horns. The Leicester ram is not blackfaced, and has no horns. The breed follow the Leicester ram, whitefaced, and in the proportion of about 85 per cent. have no horns. A few years

ago, on the estate of Alva there was a black ram with 5 horns, 2 on either side, and 1 on the centre. The breed by the common white ewe took the abnormal character of this ram, with a few exceptions. We know also that the products of the male ass by the mare, and of the stallion by the she-ass, can be distinguished by the skin having the distinctive characteristics of the sire.

Numerous examples of this law must be well known to cattle-dealers; and this subject is admirably treated by Mr. Orton of Sutherland, in his ingenious papers "On the Physiology of Breeding."

We may safely, I think, conclude from the facts before us:

1. That in the lower animals, and in man also, the influence of the male is greater than that of the female parent in the transmission of the skin texture to the progeny.

2. That the exceptional cases (probably more in man than in the lower animals) lead us to look for some primary or secondary law presiding over the physiology of generation.

I intend to continue this enquiry as to the influence of the male on the other textures and organs of the body, in a series of cases and notes.

IV. *Mysticism and Credulity in* 1858.

It is melancholy to reflect that in a land like England, which has produced a Bacon and a Newton, and which, in its universities and schools, is daily endeavoring to diffuse the principles enunciated by those great philosophers among the mass of the population, the most dense ignorance and credulity should prevail. If this lamentable deficiency of the first principles of reasoning were confined to the multitudes who are still deprived of the blessings of education, our wonder might be less; but, unhappily, the mysticism of the age appears to fascinate not only the vulgar, who, from the beginning of time have been the dupes of the impostor, but it charms the minds and guides the conduct of some of the highest and noblest, and most learned, in this favored country. Even Sir Isaac Newton, whose physical discoveries have revealed the mechanism of the heavens, and have displayed to mankind some of the counsels of Infinite Wisdom, was inclined to mysticism in his metaphysical speculations; we have heard of moral philosophers of our own days who have avowed themselves the believers in globu-

lism; and mathematicians who have yielded to the delusions of clairvoyance and spirit-rapping. How these opposite tendencies of the human mind are to be reconciled we leave for the decision of psychologists; while we draw attention to some of the flagrant instances of imposture on the one hand and credulity on the other, which have been lately recorded in the public journals, or have been forwarded to us by our correspondents. In a late police report we find it recorded that a baker paid a considerable sum of money to a so-called astrologer, under the promise held out to him of the possession of riches. The money advanced by the credulous baker, paid in instalments, was to be variously disposed of in order to produce the promised wealth; part was to be melted in a furnace, part was to be deposited in the bosom of a midwife (!) and part was to be buried in the earth with a religious ceremony. Of course the cash really went into the pockets of the astrologer, and the upshot of all was that the deluded baker summoned the impostor before a magistrate for obtaining money under false pretences. The second instance of imposture and credulity which has been presented to our notice is to be found in a long and elaborate handbill, circulated throughout the country, and announcing the wonderful cures performed by an American doctress by means of vegetable medication. This lady takes care, however, to repudiate all connection with the Collinite quacks, with whom her system would seem to ally itself; and she strongly denounces the absurdity of supposing that diseases can be cured by any one herb alone, especially referring to pepper and lobelia. According to this lady, the vegetable tribes contain none but medicinal and healing herbs, and are thus distinguished from the poisonous products, such as mercury and arsenic, obtained from the mineral kingdom. She is evidently ignorant, or she conveniently forgets that strychnia, morphia, picrotoxia, atropia, aconitina, and many others, are not minerals. With great modesty the female doctress announces that no fee will induce her to take any case in hand which she may deem incurable; but as she publishes her cures of cancer, diabetes, consumption, diseases of the heart, etc., it is evident that there are very few diseases, if any, which are not amenable to her skill.

All this miserable nonsense, like the fleecing of the baker by the astrologer, would be too pitiful to notice in our columns, were it not intimately associated, in a psychological point of view, with the mummeries of homœopathy, and other absurdities, which reckon a certain number of dupes

in the present day. The homœoquack who declares that he can cure a serious disease by the administration of infinitesimal globules, is as much an impostor as the man who promises the acquisition of wealth by mystic incantations; and the arrogant pretensions of the American doctress are fully equalled by men who, we regret to say, assume the titles of our honored profession, and who cannot, perhaps, plead ignorance, as she might do, in excuse for their offences. Another handbill before us advertises a homœopathic and hydropathic establishment, conducted by two persons calling themselves doctors, but of whose claim to that title we know nothing. In this document the public is informed that acute diseases are more quickly and safely cured by homœopathy and hydropathy combined, than by any other system of treatment. Inflammations, fevers, paralysis, chest diseases, gout, rheumatism, dropsy, etc., pronounced incurable under other systems, are all restored to health by the combined agency of infinitesimal globules and the wet sheet. Verily the mysteries of astrology and witchcraft, the botanic cure of diseases, the pretensions of homœopathy, the belief in the efficacy of Morrison's pills and Holloway's ointment, and many other similar delusions, all belong to the same category of imposture on the one hand, and credulity on the other; and the general encouragement given to these various forms of quackery, shows how ignorant many of our people are of their own ignorance, and the necessity for some radical reform in our system—or no system—of national education.

The profanum vulgus has its delusions as well as its more elevated aristocratic brothers. We have lately seen pretty numerous specimens of the credulity of human nature exhibited among certain of the lower classes of our countrymen, as they are called. The spectacle of such degrading ignorance is not very encouraging to those who have entertained elevated hopes for the progress of humanity, nor does it say overmuch for the lessons taught by the schoolmaster, who has now for some time had the credit of being abroad. It shows one thing, however, pretty clearly, that there is a very intimate connexion in certain of their psychical qualities between the aristo and the proletaire. The former dabbles in small fantasias with the gipsy tribe; and the latter indulges in somewhat larger fancies with those other Bashi-Bashouks of society—the homœopaths, mesmerists, table-turners, spirit-rappers, and so forth. Where is the difference between my lord and his man? One fact clearly comes out of all this, and it is, that if my lord and his man are both

supplied with education (as we know they are), the education, though abundant in quantity, is manifestly defective in quality. This fact Faraday plainly told his educated audience at the Royal institution, when he explained the absurdity of the table-turning nonsense to the deluded individuals who believed in it.

CHRONICLE OF MEDICAL SCIENCE.

MEDICAL PATHOLOGY AND THERAPEUTICS.

1. *Observations on Cholera.* By Prof. Lebert.

Prof. Lebert has laid down his observations, made during the late cholera epidemic in Zürich, in the following report:

In one-third of the cases, the usual antecedent diarrhœa was absent, and equally so in patients who recovered as in those who died. If it was present, its duration was generally between one and three days; in nearly one-fourth of the cases, however, between half a week to a whole one. The temperature never fell as much as it appeared, generally not underneath 27·2° R., only once to 24·8° R. In one case the face and extremities appeared warmer to the touch of the hand than immediately before death. Although the suppression of urine was generally complete in bad cases, Prof. Lebert has, nevertheless, observed a fatal issue in cases in which urine was voided. In six patients who afterwards recovered, he found the urine merely reduced in quantity, and containing albumen. The secretion of urine commonly appeared again in the course of the third or fourth day, in only one case after four, and in another after six days. The typhoid course of the disease seems to be owing more to the entire pathological process, than especially to uræmic intoxication. In reference to pathological anatomy, the rarity of diphtheritic processes is to be remarked; only once, croup of the larynx and œsophagus occurred, and in only one patient recent tuberculosis set in. Among the more frequent anatomical changes found in cases of rapily fatal

termination, Prof. Lebert points out particularly the injection of the peritoneal surface of the small intestines, which was often covered with an adhesive secretion. After an early death, Brunner's duodenal glands were always found to be swollen. The isolated and agminated glands had a muddy, milky appearance, and were tumefied, but did not show real signs of inflammation, and could be injected with perfect ease; they were apparently œdematous, and the molecular nucleoli and nuclei seemed to be augmented. A decrease in their tumefied condition took place sometimes as early as from twenty-four to forty-eight hours, in other cases not after three days; they became then more flat, somewhat corrugated, some time afterwards firm, granular, still prominent, but diminished in circumference; their color was then more yellowish-gray, and assumed, some time later, in many cases a slaty tint; in other cases, a grayish-black, brown, or reddish-brown pigment was found on these glands, particularly if ecchymoses had formerly existed; in the second week the tumefaction usually disappeared, and an increased density and abnormal pigmentation only remained. In the first period, the patches of agminated glands showed frequently a net-like appearance. Also in the large intestines, the glands were swollen, prominent, lenticular, or having a blackish or reddish aperture; at a later period they decreased in size, and revealed retrogressive changes similar to the glands of the small intestines. Already, sixteen to twenty-four hours after the commencement of the disease, the volume of the kidneys had increased; they were in a state of general hyperæmia, with ecchymoses here and there; as early as the second half of the first day, Prof. Lebert found the cortical substance discolored, but otherwise merely increase of the epithelial cells, with albuminous granules; only in rare cases exudation cylinders in the uriniferous tubes. In the course of the second day these cylinders increased in quantity; on pressure, a turbid albuminous urine containing cylinders, and sometimes crystals of uric acid, was discharged from the papillæ; the mucous membrane of the pelvis of the kidney and of the calices was usually very hyperæmic, covered with numerous minute ramifications of vessels; in the course of the third day the discoloration was more constant, more general, and well marked; the cortical substance was of a pale, yellowish color, and granulations were seen in it here and there; the hyperæmia was unequally distributed; the surface became unequal and rough; about this time the secretion of urine generally reappeared, being charged with albumen, cylinders, epithelial cells, and

crystals of uric acid; the exuberant growth of cells, the desquamation of epithelium, and the formation of exudation cylinders had reached a certain intensity. Only in the course of the third day, and toward its end, the fatty degeneration commenced. In the typhoid state, and generally in incomplete convalescence, these changes rapidly increased; the kidneys were larger than in normal condition; the vascular islets became rarer and rarer; the granulations more and more numerous; the substance of the kidney became softer, was more easily torn, and infiltrated with a turbid, yellowish liquid containing numerous elements of fat. On chemical investigation, the liver of a patient who had died some time after the attack, yielded an alcoholic extract which possessed a peculiar urinous odor, and contained much leucin; the presence of tyrosin and urea could not be satisfactorily proved. In another case in which the disease had terminated fatally within eight days under the appearance of typhoid symptoms, the liver, spleen and kidneys were examined. The extract of the liver had not the urinous odor, and only after having stood for some time, a globule of leucin was here and there detected; tyrosin was not present; uric acid only in small quantities. The spleen contained leucin, inosit, uric acid, and biliary pigment; the kidneys a great portion of urea, some leucin, biliary pigment, uric acid, no inosit. In regard to treatment, Prof. Lebert recommends to pay particular attention to the diarrhœa from the beginning; in many cases argent. nitr. gr. ss to grs. iij, daily, in the form of pills, was sufficiently efficacious, and was used in case of very exhausting evacuations, in small clysters containing grs. iij—iv of the salt. Also opium was used in different forms, partly alone, partly combined with tannic acid and argent. nitr. During the attack itself, ice, and liquids containing carbonic acid, brought the greatest relief; large sinapisms were applied to the epigastric regions and the extremities. Clysters of argent. nitr. and opium appeared to be of use only after the great frequency of the evacuations was somewhat diminished. Toward the end of the attack, small doses of opium in infus. flor. tilæ were sometimes very serviceable. For the decrease of temperature, external heat and tea of lime blossoms, with fifteen drops of liq. ammon. anisat. for each cup, were ordered. During the existence of typhoid symptoms, the nausea and anorexia were allayed by Seidlitz powder, ice, carbonic acid water, and later, by bitter and aromatic infusions. Gentle cathartics, particularly pills of rhubarb and aloes, were here of use. Enemata, containing ether (æther. sulphur, ʒj—ij to ice water, ʒiv), were

applied with great success in very troublesome tympanites with abdominal pain. Inflammatory affections of the chest were treated with cups and inf. rad. ipecac.—*Virchow's Archiv. für Patholog. Anatomie.*

2. *On Prolonged Constipation.* Reported from the Clinic of Prof. TEISSIER. By Dr. COUTAGNE.

Throwing the constipation resulting from organic lesions of the intestines out of consideration, Dr. Teissier establishes the following varieties of constipation, which are founded on the causes they are produced by. Constipation can thus depend:

1. Upon alteration of the mucous secretion, such as diminution of the intestinal exhalation, or modification in the composition of the mucus, etc.

2. Upon functional disorders of the liver, which does not pour out a sufficient quantity of bile into the intestines.

3. On inertia of the intestinal contractility.

4. On a spasmodic state of the muscular coat of the intestines.

The most frequent cause of constipation is the indolence and inertia of the muscular fibres of the intestine. This variety is frequently combined with those which result from derangement in the digestive secretions, and is observed ordinarily in old people, in persons of sedentary habit, and those who repose too much in bed. After a review of the well known symptoms of constipation, Dr. Teissier considers the treatment of the disease, which he bases upon the etiological distinctions established above. For constipation, in consequence of alteration of the mucous secretion, he recommends emollient injections with honey or oil, and light laxatives. For constipation from derangement of the biliary secretions, drastics, rhubarb, aloes, calomel, extract of ox-gall, etc. In habitual constipation dependent upon indolence of the intestine, Dr. Teissier objects to the use of purgatives, and even to warm emollient enemata or laxatives, as they only augment the evil; purgatives excite the intestinal secretion only momentarily to diminish, and even suspend it afterwards, while warm and emollient injections, although bringing temporary relief, tend to weaken the intestinal tunics, and put them in a state of atony. For patients of this kind M. Teissier recommends:

1. To regulate the habit of the intestinal functions by going to stool each day at a fixed hour, and making pro-

longed efforts to provoke contractions of the large intestines, as recommended by M. Trousseau.

2. Injections of cold water.
3. Nux vomica in very small doses each morning.
4. The tea of saint germain, which Prof. Teissier considers one of the most efficacious remedies, having used it for ten years with great success.
5. Coffee with milk.
6. Bran-bread.
7. White mustard.
8. Ervalenta.

For the treatment of constipation dependent upon nervous erithism of the intestines, a form frequently met with in hysteric, neuropathic females, the best remedy is belladonna in fractional doses: one centigramme of the extract every day.—*Gazette Medic. de Lyon—Gazette Hebdom.*

3. *On Quinine in Scarlet Fever.* By P. Hood, Surgeon, London.

As I regard quinine to be the sheet anchor of successful practice in scarlet fever, I am relieved of all anxiety as to the result of the disease, when I have once fairly established the regularity of its administration. Formerly I was in the habit of prescribing quinine, but without paying the attention which I have since found necessary to the previous exhibition of the emetic and purgatives. (Though I never lost a patient under the former course of treatment, I yet had often to contend against the complications that followed the subduction of the primary disease. Some of those cases were of the most severe kind; and I am now disposed to attribute much of this severity to the use of the very remedy—quinine—which I now find so eminently advantageous in preventing any such description of sequelæ or complications.) The curative efficacy of quinine, like that of every other remedy applied through the stomach, depends upon the due absorption of it into the blood by the process of digestion. This, however, will not be the case unless the system by the use of purgatives, as has been previously urged, is kept free from effete matters. When this most important preliminary object has not been obtained, quinine, instead of allaying the rapid action of the heart, accelerates it; at the same time rendering the skin hotter, and the rash more vivid in color, increasing the swelling of the face and eyelids, and injuriously affecting the internal mucous mem-

branes. When proper attention has been paid to the evacuation of the bowels, quinine will be found to produce its effects in the most satisfactory manner. The accelerated action of the heart will abate, the skin will become cooler, and the nervous irritability (so strikingly displayed as the result of some poisonous influence pervading the system) will be tranquilized. The rash will soon fade, and the swelling of the tonsils will diminish and gradually subside, and no superficial ulceration will occur in these organs. I do not mean to say that all cases of scarlet fever are to be cured by the use of quinine: its positive value as a remedial agent ought not to be jeopardized by any such rash assertion. It is not my object to write a treatise in laudation of this medicine, but simply to state the success I have met with in employing it in conjunction with other medicines, without which I look upon it to be almost useless, if not in many cases prejudicial. There can be no specific for a disease like scarlet fever. It must not be expected that malignant cases, which have been from the first neglected, can always be successfully treated by the administration of quinine. The dose should not be large, unless there be unmistakable premonitions of malignancy, prutrescency, or exhaustion. Before any symptoms of the kind show themselves, all the advantages belonging to this medicine may be obtained from doses of a grain or two grains every four or six hours, according to the age and state of the patient. When there are symptoms of malignancy, the dose may range from three to five grains every four or six hours. The most convenient form for its administration is that of solution with sulphuric acid, and sweetened with syrup.

4. *Use of Propylamin in Rheumatism.* By Dr. Amenarius.

Propylamin, a peculiar volatile alkali, obtained from herring-pickle, cod-liver oil, ergot, human urine, etc. promises, according to the observations of Dr. Amenarius, to become a real specific in the different diseases which are of purely rheumatic origin; nay, in cases where the diagnosis is doubtful, the exhibition of propylamin, continued for a few days, will even afford a criterion of the true nature of the malady. The author used this remedy, with excellent results, in two hundred and thirty cases of acute and chronic rheumatism, which came under his observation within a period of three years, in the Kalinkin hospital, in St. Petersburg, Russia, and treated a large number of patients outside the hospital

with equal success. Most cases were: partial or general muscular rheumatism, rheumatic facial neuralgia, metastatic rheumatism of the pericardium, membranes of the brain, or pleura, hemiplegia and paraplegia of the lower extremities. In acute cases, pain and fever had often disappeared on the next day. Form and dose: ℞ Propylamin, gtt. xxiv in aq. distil. ʒvi, to which may be added elæosacchar. menth. pisst. ʒij. Every two hours a tablespoonful.—*Med. Ztg.*—*Schmidt's Jahrbücher.*

SURGICAL PATHOLOGY AND OPERATIONS.

1. *Complete Prolapsus Uteri—Radical Operation according to the method of Knechler in Fulda, and Savage of London—Use of Silver Wire for Suture—Perfect Result.*

Bridget Cassedy, 38 years of age, married, mother of five children, admitted under service of Drs. Louis Bauer, and J. G. Johnson, to the institution, on the 18th of August. Until the beginning of her trouble, she had enjoyed good health; when she gave birth to her fourth child, the labor was tedious and her attendant had to use forceps. The posterior commissure was thereby lacerated; descensus uteri ensued. Her fifth child was born without difficulty.

When she presented herself at the hospital, the prolapsus had been in existence for eight consecutive years. It bore the following appearance: the entire vagina protruded; the constant exposure to air, and the friction by rough clothes, had inflamed, intumesced, and discolored the mucous membrane. The dilated os uteri occupied the most dependent point of the vagina, and its labia had lost their contours. The mucous membrane of the womb discharged freely viscid matter; that of the vagina was rather dry. Behind the protruded parts, the introitus vaginæ was very wide, and extended beyond its natural limits, towards the anus, where a cicatrix of great laxity could be noticed. The perineum was altogether flabby, and without resistance. The operation being decided on, she received preparatory an aperient sufficient to clear her bowels.

On the 19th of August, clysmata were applied at 8 and 11 o'clock, A. M. respectively; and immediately after the

latter, an opiate of grs. ij, when the operation, performed by Dr. Louis Bauer, proceeded as follows: an incision through the mucous membrane of the posterior wall of the vagina and integument of the perineum, circumscribed the shape of a heart, the point of which almost reached the anal orifice; inside carefully pared off. Five deep sutures through the whole thickness of vagina and perineum held on either side by shots alone. Six intermediate superficial sutures; both these and former were made with silver wires. The surface was thus converted into a linear wound. Having, in fine, divided the sphincter ani externus, as commended by Isaac B. Brown of London, Dr. Bauer terminated the operation by inserting Dr. Sims' self-retaining catheter, with a view of protecting the wound against the contact with urine. Patient received for a fortnight but liquid food and opiates sufficient to keep the bowels at rest. On the 7th day after operation removed the deep sutures, when superficial sloughing was found around the shots, obviously from their pressure upon the skin; the canals of sutures were however intact. 9th day, removal of the superficial sutures; wound proved to be closed by first intention. The vagina had been reduced to half its calibre and the perineum firm and resistant. The patient had but little inconvenience from the retention of stools, and occasional pains were easily allayed by morphia. On the 14th day, injection of diluted ox-gall (Baker Brown) and castor oil. Next day patient was permitted to enjoy the open air in the garden, and her usual pipe, the perineum being, of course, supported by pad. Discharged cured on the 21st day after the operation. The womb up to that day was perfectly retained, and sphincter had also resumed its function.

2. *Lithotomy in the Female.* By Geo. C. Blackman, M. D., Professor of Surgery in the Medical College of Ohio, and Surgeon to the Commercial Hospital, Cincinnati.

On the 19th of November last the Rev. Mr. E. from Virginia brought to my office his little daughter, five years of age. From her fifth month she had been a great sufferer, her urine being voided with much difficulty, and occasionally complete retention would occur. Whenever she felt a desire to urinate, she would at once press her heel against the vulva with all the force she could command. She had been under the treatment of a number of practitioners, some of whom regarded her case as prolapsus uteri, whilst

others treated her for worms! The introduction of a small sound at once detected the stone, and I appointed the next day for its removal. Assisted by Drs. Tripler, Foster, and Holt of Covington, I placed the patient under the influence of chloroform, and then attempted to ascertain the extent to which the urethra could be dilated. We were all soon satisfied that dilatation sufficient to admit the passage of the stone, with the forceps embracing it, would, even if possible, be certainly followed by incontinence of urine. I then introduced the ordinary female staff, with its groove directed downward, and divided the urethra, until only a narrow ring could be felt to embrace the point of the finger. With a polypus forceps I seized the stone, which was extracted without any great difficulty. The stone measured three-quarters of an inch in its greatest diameter, and a little more than two inches in circumference. The bladder was washed by means of an injection of three or four ounces of tepid water, and to our great delight we found that it could be retained. At my next visit, on the day following the operation, the mother informed me that there had been no incontinence, and that the patient had been more comfortable after the operation than since her first attack. In forty-eight hours after the extraction of the stone, the parents, without my permission, took the child with them on a visit to some friends residing twelve miles from the city, declaring that she was perfectly cured.

In the present unsettled state of opinion in reference to the best method of extracting calculi from the female bladder, the above case will not be without interest to the advocates of the division of the anterior two-thirds of the urethra, as has been so strongly recommended by Mr. Fergusson of London, in his work on Practical Surgery.

3. *New Method of Curing Hydrocele.* By Professor Simpson of Edinburgh. (Ed. Med. Jour.)

We have repeatedly noticed novel propositions for the cure of hydrocele. The new method which Dr. Simpson suggests to the Medico-Chirurgical society, is founded upon the fact that iron and other metallic wires, when placed in contact with living tissues, did not, as a general law, excite inflammation to a higher stage than that of adhesion, or the effusion of coagulable lymph. Dr. Rothmund of Munich performed the radical cure of hernia by exciting adhesive inflammation in the returned hernial sac, passing, for this pur-

pose, and leaving for eight days, a metallic needle traversing the peritoneum; and had not, it was averred, lost a single patient out of 1,000 operated on. If metals in serous sacs created a higher stage of inflammation than the adhesive, such a fortunate result as this would not have been attained. Dr. S. had thought for some time that metallic wires passed through the sac of a hydrocele, would act in two ways: first, they would drain off the fluid; and, secondly, they would subsequently, by their presence, form the surest means of exciting the subsequent amount of adhesive inflammation that was required for the cure of the disease. Dr. Young had, in one of his patients, afforded him an opportunity of putting this idea to the test. Dr. S. showed the society the slender wire or metallic seton which he had used in this case. It was passed through the sac by first traversing the sac from below upwards with a long-handled surgical needle, such as is used in transfixing and tying hæmorrhoids, threading the eye of the needle, after it was projected through the scrotum above, with three or four slender iron threads, pulling the needle then backwards through the sac and out, and thus leaving the metallic seton in its place. The liquid drained off in an hour or two; adhesive inflammation set in, and progressed for two days, when it began to subside. The wires were removed on the third day; and the cure had remained apparently quite complete, with the vaginal sac firm and consolidated. Dr. Young had promised to publish the whole case at length. This method of treating hydrocele was, Dr. S. held, much simpler in its performance than tapping and injecting; not by any means so painful to the patients; less likely to produce a suppurative or dangerous amount of inflammation; and, perhaps, experience would show also, betimes, that it was surer and more certain in its results.

4. *Treatment of Burns in New York Hospital.* By Dr. Shrady, Resident Surgeon.

In continuation of this subject under this head in the last number, I propose to begin this article with the treatment that is now adopted in this institution for burns. As far as I am aware, the practice is not an old one, and originated, or at least was first used in the Massachusetts general hospital. Its adoption into this institution is quite recent, and was first employed by Dr. Gurdon Buck, the senior surgeon. It consists of a paste of gum acacia ℥iij, g. tragacanth ℥j,

water 1 pint, molasses ℥ij, applied with broad, flat camel's hair brush. It follows out the old indication, differing from the other modes of treatment in the materials employed. Until lately, the carron oil has been used, and with excellent results, but this, so to speak, new application has one great advantage over it on account of cleanliness. The molasses seems to prevent contraction of the new covering. The first application is made immediately on admission into the hospital; this dries in the course of an hour or two, and is then followed by another; generally four applications are sufficient to form a firm, unyielding, noncontracting scab. These scabs, in the course of a couple of weeks, crack and peel off, leaving either a granulating surface underneath, or a mere rubefaction, according to the severity of the burn. The granulations, if such there be, are treated with Turner's cerate. It has been tried in a great many cases, and each application seems to prove its utility the more. All the surgeons are agreed upon this point, that it is the best remedy for such cases. When pus accumulates underneath the covering it is evacuated by small punctures.

5. *Treatment of Burns.* By A. Meadows, M. B., King's College Hospital.

A short time since, when commenting on a case of severe burn then under treatment in the Royal free hospital, a plan of treatment similar to that pursued in Massachusetts, was suggested, consisting of the application of a thick mucilage of gum acacia over the recent burn, and then dashing this well with dry powder. Some time ago, while a resident officer in King's college hospital, I tried a method which in some sort resembles this, but which on the whole, I think possesses some advantages over it. At that time I was not aware that any similar plan had been followed, but I can add my testimony to the very efficient way in which it acts.

The treatment to which I allude consists in the application of a mixture of collodion and castor oil, in the proportion of two parts of the former to one of the latter. It will be found that these two substances mix in the most perfect manner, and do not afterwards separate. I tried many other oils, thinking that perhaps the irritant principle of castor oil would act prejudicially on an inflamed surface; but none seemed to answer so well; many of them, indeed, would not mix at all; and I never found any ill effects to follow its use. The mixture may be kept ready for use for any

length of time in a bottle well stoppered. It should be used thus: As soon as the accident happens, the parts injured should at once be well covered with the mixture, applied with a camel's hair brush. In a few minutes this will have completely dried, and have left a firm adhering covering. A second coating should then be applied. I deem this advisable to make it more effectual. Nothing more need be done at present; the case may be left quite exposed, and no fear need be entertained of air reaching the wound; it is felt almost as if a new skin were applied. Now and then it should be looked at, to see if any cracks have been made by the movement of the parts; and it is well, for the first two or three days, to paint it over with the mixture night and morning; no other local treatment is necessary. In a few hours it will be found that the inflammatory action has greatly subsided, and in a few days suppuration will be sure to have begun under the artificial covering. This must be removed. A poultice, either of bread, or linseed meal, will readily effect this; one generally suffices. A clean, healthy granulating surface is what we have now to contend with, and this may be dressed as any ordinary wound; water dressing is, I think, the best; but simple cerate, or any other mild application, may be preferred by some.

6. *Results of the Operation of Tracheotomy at the Hospital des Enfans Malades, Paris.*

The following table shows the proportion of cures effected by this operation for the years 1857 and 1858:

	Operations.	Cures.	
1857,	39 boys,	4	or more than $\frac{1}{10}$
"	31 girls,	12	or more than $\frac{1}{3}$
	70	16	or more than $\frac{1}{5}$
1858,	23 boys,	4	or more than $\frac{1}{6}$
"	31 girls,	9	or more than $\frac{1}{4}$
	54	13	or more than $\frac{1}{5}$

According to the statistics afforded by these operations, there is less chance of success before the age of 4 years, and the proportion of successful cases increases with the age of the child; the success, too, is greater, according as the operation is performed early in the disease. This, however, is

a point upon which little can be said, as tracheotomy is not likely ever to be resorted to, till all other means have failed; of 19 successful cases, 6 had been 5 and 6 days ill; very few conditions exist where the operation would be contra-indicated; great service appears to result from the administration, in all cases, of chlorate of potass. Little or no benefit has been derived from the use of caustic in croup.

Bull Ther.—Ed. Med. J.

7. *On the use of the Sub-nitrate of Bismuth, internally, for the Cure of Gonorrhœa.*

The success of M. Caby with the sub-nitrate in chronic gonorrhœa, induced M. Delamorliere* (Dr. Caby's successor at St. Lazare), to try it in acute gonorrhœa.

The following is the combination used daily in St. Lazare, with great success:

℞ Balsam copaiba, powdered cubebs, sub-nitrate of bismuth, of each 30 grammes; oil of peppermint, sufficient to flavor. Mix well. From eight to ten grammes may be taken daily in azymous bread or a wafer.

This combination is easily retained by the most delicate stomach; it does not cause any fever, any epigastric heat or diarrhœa; in fact, its whole force seems directed to the genito-urinary organs, curing the patient more rapidly, more pleasantly, than the balsam administered the old way.

Those patients who prefer taking the capsules, can swallow immediately after or before the capsules, a dessertspoonful of the sub-nitrate of bismuth, mixed to suit their taste.

Bulletin Général de Thérapeutique.

8. *Persulphate of Iron as a Hæmostatic.*

We abstract from the American Journal Medical Sciences, a portion of an article condensed from the Pacific Medical and Surgical Journal. Dr. H. H. Toland records three cases in which vessels of considerable magnitude were wounded, in which he employed with entire success the persalt of iron, recommended as a hæmostatic by M. Monsel, surgeon to the Military hospital at Bordeaux.

"Its action on blood and albumen is powerful, and on

* M. Caby has reported great success from injections of bismuth in gonorrhœa. He advises that an injection of an ounce to the pint of water be used twice daily.—*Ed.*

blood somewhat peculiar. It produces with the latter a voluminous clot, absolutely insoluble, which continues to enlarge, for several hours after its application, and becomes quite hard and firm. The following is the formular by which this salt is expressed: 5 SO^3, 2 FeO^3."

"This salt (Dr. Toland states), if applied to a superficial wound as soon as made, not a drop of blood escapes, and no pain results from the application. It acts by producing instantaneous coagulation of the blood, and will be found invaluable in hemorrhage from the mouth, nose and throat, when it is impossible to ligate the vessels, and may be equally efficacious in alarming uterine hemorrhages, either active or passive. In solution, it could be readily applied: it is deliquescent, and dissolves speedily in water."

9. *Monsel's Persulphate of Iron—New Hæmostatic and Astringent Tonic.* By Joseph C. Hutchison, M. D., Surg. to the Brooklyn City Hospital.

Having recently used the above agent (which was introduced to the notice of the profession, by M. Monsel of Bordeaux), in the following cases, with the most gratifying results, I present them as some evidence of its superiority as a hæmostatic:

Case i.—While assisting Dr. Isaacs to perform Cooper's operation of excising a portion of the scrotum for varicocele, on a patient in the Brooklyn city hospital, I applied, with his permission, the persulphate to arrest the copious capillary hemorrhage which always occurs during operations on this tissue. Instantaneous coagulation occurred with satisfactory results.

Case ii.—In a case of profuse epistaxis caused by a blow on the nose, which probably produced rupture of some of the larger capillaries, a narrow strip of lint saturated with the solution was introduced into the nostril, which at once produced a hard coagulum, and arrested the hemorrhage instantly.

Case iii.—In this instance the effects of the persulphate were most marked. A few days since, while Dr. Minor was operating for necrosis of the femur on a patient in the Brooklyn city hospital, an artery of considerable size was cut, and we were about applying a ligature, when the doctor sug-

gested a trial of Monsel's solution, which at once arrested the hemorrhage, very much to the surprise of all present.

The article which I used was prepared by Dr. E. R. Squibb, lately of the United States navy, who, the profession will be glad to know, has recently established a laboratory here for supplying the U. S. army and the medical profession generally, with pharmaceutical chemicals of such a standard of purity as has not hitherto been accessible to them.

10. *New Mode of Dressing Fractured Clavicle.* By Dr. J. W. Freer.

In the Chicago Medical Journal, Dr. J. W. Freer gives his own method for the treatment of this fracture, which seems to be simple, easy of application, and to answer all the indications. He applies a strip of adhesive plaster, two and a half to three inches wide, and long enough to extend from the under surface of the forearm, near the elbow of the injured side, to the shoulder opposite, the strap being applied about its middle to the form, and passing each end, one in front and the other behind, crossing on the shoulder, and lapping over. This must be drawn tight enough to bring the elbow firmly to the side and elevate the shoulders, a pad having been placed in the axilla to carry the shoulder outwards. Next, a similar strip is passed around the injured arm at the axilla, carried across the back under the arm opposite, and lapping upon the breast tight enough to bring the shoulder sufficiently far back. Finally the hand is supported by a silk handkerchief, attached to a loop of plaster over the sound shoulder. If it be necessary to make compression over the seat of fracture, this may be done by means of a strap placed under the elbow and over the shoulder of the injured side.

11. *Metallic Ligatures around Arteries.* By Prof. Simpson.

In pursuance of the observations made to the Edinburgh Medico-Chirurgical society last year, Dr. Simpson had had a series of experiments tried on the effects of metallic ligatures around arteries. Dr. J. Murray had kindly and most ably made most of these experiments. He showed one of them, viz: the carotids of a cat, recently killed. Both of the carotids had been tied and obliterated, seven months ago, with palladium wire. There was so little swelling, or

change or effusion around the sites of these ligatures, that it was difficult at first to trace their presence. If, Dr. S. argued, these ligatures had been organic, or made of silk or hemp, and not metallic, the amount of irritation produced by them would, long ere the seven months had elapsed, have set up eliminative and suppurative inflammation.

Ed. Med. Jour.

HYGIENE.

Marriages in Consanguinity. Translated from M. DEVAY's "Hygiène des Familles."

In the view of the physiologist and the physician, marriage in consanguinity is a violation of an organic law, and their experience cannot but lend a powerful support to the common sentiment. Every physiological union is due to a true vital affinity, whose sole condition is a harmonious diversity in the parts or parties involved. An affinity founded upon this condition is the first motive influence in sexual approximation. The law is, that it exists only in an opposition of sexes (a law of such potency that it addresses itself to the instinct, even in the associations of organic life), and that every tendency towards a similarity in the genital organs, even in opposite sexes, awakens an intuitive repulsion. This affinity acts very profoundly also on reproduction; to it seems to be due the instinctive aversion of similar characters in certain marriages; it is at least a settled point that a certain contrariety of characteristics between any two parents is necessary to fertility.

Hence the observation so often made by authors, that alliances between individuals too like each other, however well constituted both may be, are often unfruitful; fecundation is the more certain in a given species, in proportion as there is found, between the male and female, a disparity of temperament or of present condition. It is for this reason that the greater number of alliances in consanguinity either do not succeed at all, or succeed ill.

Dr. Dechambre, a physician of great intelligence on this subject, appears to us to have estimated at its just value the special rôle of consanguinity. "What we have to reprobate (he says) in marriages of this sort is, not that they perpe-

tuate in families diseases capable of hereditary transmission, neither certain forms of temperament, neither certain organic proclivities, such as narrowness of chest, or other vice of conformation. It is manifest that nearness of relationship of itself adds nothing to the chances of morbid heredity, which, depending on the health of the individuals themselves, and of their progenitors on either side, acknowledge the same origin, whatever the nature of the alliance. The objection to marriages between persons sprung from the same stock is, that by the mere fact of the non-renewal of the blood, they exercise a peculiar influence in inducing an organic depreciation, fatal to the propagation of the species."

This cause, if suffered to repeat itself in the same family, would, in a certain sense, as compared with morbid heredity, act in an inverse direction. The latter becomes exhausted with the lapse of time. Very often, it is true, the characteristic by which it betrays itself goes on increasing more and more during several generations; but in the end it becomes effaced, and is lost in the maze of intermarriages, and in the complicated web of influences belonging to situation, climate, temperament and constitution. It is the same in this respect, with diseases and vices of organization as with individual characteristics; and just as the family resemblances become sooner or later effaced as the generations advance, and families themselves are extinguished (there are none, according to Benoiston de Châteauneuf, whose duration has exceeded three centuries), just so diseased tendencies are less and less active as the common stock grows older. An example of this we might instance in the families of Colburn and Nougaret, whose history is related by M. Prosper Lucas (Treatise on Heredity), who himself borrows it from Carlisle and M. Szokalsky. "In the Colburn family (says M. Lucas), the hereditary peculiarity of supernumerary toes and fingers progressed after this fashion; the normal arrangement was to the abnormal successively as follows: in the first generation, as 1 to 35; in the second, as 1 to 14; in the third, as 1 to 3.75, and thus diminishing step by step, the peculiarity at length disappeared.

"The more recently traced genealogy of the Nougaret family, in which hemeralopia for six generations was hereditary, shows the same result. The proportion of individuals thus affected, to those remaining exempt was, in the first generation, as 1 to 1; in the second, as 2 to 3; in the third, as 1 to 6; in the fourth, as one to 9. In the fifth and sixth generations this last proportion had not changed; but contrary to the opinion of M. Szokalsky, the final extinction of

this peculiarity, provided no error should be committed in the choice of alliances, seems to me inevitable." In this opinion of M. Lucas we fully coincide.

On the other hand, the effects attributed to marriage between relatives, often negative or only slightly marked after a first alliance, become multiplied and aggravated after a second or a third. The offspring become more and more wretched, and little by little the family depreciates, notwithstanding the precautions used in matrimonial associations. Consanguinity then would tend to annul the benefits sought for in matrimony; it would present an obstacle to the transmission of the healthful qualities of parents to the products of their union, and while devoting the latter to those infirmities which they in their turn are to transmit, it would transfer again to the sphere of morbid heredity whatever the lapse of time might have effected under any system of alliance, but particularly in such as should have been properly assorted.

A striking example of this sort of antithesis of effect as between heredity, properly so called, and consanguinity, is furnished by the domestic animals, in which the experimental study of this question is much easier than in the human species. It is well known what is meant in England by "breeding in and in;" a propagation by incest, which consists in coupling individuals of the very closest blood connection, the sire with his own female offspring, the brother with the sister, &c. This method is resorted to, to confirm and render more easily transmissible through a limited number of generations, certain qualities recognized in one or both parents. But, at the same time, the debilitating influence of these associations is so well understood, as to be taken advantage of for the production of individuals, whose small skeleton and soft flesh render them very desirable for the table. If, however, this practice be too long continued, the end sought after is exceeded; and we succeed in obtaining only the sorriest products, sickly, mis-shapen, short-lived, and often-times inapt for procreation. What we have said of the ox, the sheep, or the hog, has been likewise observed in birds; the fact is even said to be established in the case of plants.

It cannot be doubted that nature has imposed upon organic life, as a condition of its prosperity, the law of interchange of diverse physiological attributes. This inference is derived from a comprehensive view of natural phenomena. The vegetable kingdom is perfected by transplanting. We cannot now accept the opinion so long in vogue, that the

greater part of the races or varieties of fruits that we possess are due to the gradual and continued operation of successive graftings; they are in general the result of change of climate, soil, or condition of exposure in the races or species, and are sprung from the plant seeds derived from the individuals thus transported. Art has now recourse to this method, for the development of new varieties in both kingdoms. When these varieties do not occur spontaneously, when the desired peculiarities do not present themselves in the parents, it suffices to modify the physical circumstances under which they live,—air, soil, climate, kind of nutrition, &c.—to make it certain that their descendants shall present new character.

It is now many years since our researches upon this subject were undertaken. In 1846, on the first publication of our "Family Hygiene," we pointed out certain facts tending to throw light upon the question. Our cases (we then wrote) are thirty-nine in number; thirteen have been collected within the circle of our acquaintance; the other twenty-six have been furnished either by our own patients or from authentic sources. In the first category we find two uncles who have married their own nieces; three aunts who are united to their grand nephews; all the rest are alliances between first or second cousins. Now, eight of these marriages have been sterile, although the parties were by no means of disproportionate age; four have engendered scrofulous children, cut off in the flower of their years, not one of whom has passed the age of fourteen. The last of these unfortunate alliances has, it is true, brought into the world an offspring of sufficient vitality, but so afflicted by ichthyosis, a loathsome cutaneous affection, as to have been seriously embarrassed in growth and in worldly prospects. We may add, moreover, that two of the scrofulous and rickety children were born with supernumerary fingers, as though nature had sought to associate deformity with the original feebleness of constitution.

"Among the twenty-six cases included in the second category, we find eleven unfortunate alliances, all of them between first cousins; an epileptic child is the issue of one of these marriages; three of the others have produced children who have died in convulsions, or of hydrocephalus. Among the other seven we reckon two sterile unions, and of the five remaining, two of the offspring present a state of health which leaves very much to be desired. Four only of these marriages, to complete the number of twenty-six, have been

fruitful. Their offspring appear to enjoy a moderate degree of health."

Since these first observations, we have not ceased to be on the lookout for analogous facts, and scrupulously to note the results of consanguinity. We have not been surprised to see them all bear witness to this fact, viz: that alliances in consanguinity are as unfavorable to the increase as to the health of a population. In a word, either these unions prove utterly sterile, or else their issue become affected in health or structure. Such are the results derivable at least from our own researches, and we may say that proofs of this assertion have accumulated in a manner quite to our satisfaction.

Let us study the language of facts. To the thirty-nine observations cited in 1846, we have now to add eighty-two, collected since that time, and which relate to facts we have ourselves verified. We pass over in silence some others of a semi-authentic character, which, having been furnished us by credible persons to be sure, but who were strangers to the science of medicine, pass with us only as hearsay evidence. It will be readily perceived, with what delicacy and discretion researches of this nature have to be made. While other points in the domain of medicine require a detailed, circumstantial examination, here the honor of the physician demands a prudent reserve; it is not for the interest of a family to be thus made an object of notoriety.

We have then a total of one hundred and twenty-one cases, in which it has been permitted us to see the results of the influence of consanguinity on conception and its products. The eighty-two new facts present a pathogenic summary having much analogy with the preceding thirty-nine. Of these eighty-two, the number of cases of sterility reaches fourteen, which, added to the eight previously noted, makes the whole number twenty-two. These alliances, which are for the most part of from eight to ten years' standing, were between cousins or the children of cousins. Four only were of uncles who had espoused their own nieces. Among the twenty-two cases of sterility, we reckon sixteen that were absolute, that is to say, without conception, and six in which, although conception took place, it was followed by abortion in the first months of gestation. Out of the whole number of one hundred and twenty-one, we have established seventeen cases of abortion. Thus we have on the one hand six abortions not followed or preceded by an ordinary conception, and on the other, eleven cases

in which there was, either before or after the abortion, a full-term pregnancy.

Whenever the attention of observers and physicians shall be sufficiently drawn to this matter, they will be able almost always to establish this important fact, that nature seems to testify by degrees, its repulsion towards marriages founded on consanguinity. Very often (and this may indeed be regarded as a favorable result) it visits them with sterility; and if they be fruitful, it makes of their issue, odd, incomplete specimens, and brands them with anomalies. At last, it has still in reserve those deviations from the physiological type of the race—the veritable monstrosities. In any considerable series of products, the issues of consanguineous unions, we almost always meet with one or more specimens affected by those singular accidents of organization, so appalling and so afflicting to a family. We sometimes find, too. congenital blindness, as well as cases of hemiplegia.

Of all the abnormal deviations, that which we have most frequently observed is a superfluity of fingers or toes. We have seen, in a family of three children, whose father and mother were related in the fourth degree, two of these children presenting supernumerary little toes; the hands were normal. In our one hundred and twenty-one cases, we have met with this anomaly seventeen times, and of these, thirteen times in both hands. The contrary phenomenon, the absence of fingers or toes, occurs less frequently; twice only have we observed it, and in both cases, in the hands alone; the little finger was wanting.

The hand, that organ, or rather that part of our mechanism which Galen has extolled as the most beautiful physiological attribute of the human species, should it be one of the first so marred by this disastrous influence as to constitute a deviation from the natural order of things?

In presence of such a number of facts collected by a single observer, we must be allowed to think that consanguinity is perhaps the efficient cause of those aberrations, those deviations without number from the normal standard, whose origin is for the most unexplained. Indeed, in referring to the principle of heredity alone for an explanation of these occurrences, we find to our astonishment that they proceed from parents placed in the best sanitary conditions, and of the most irreproachable conformation.

In reading the works which treat of monstrosities, we are always struck with the deficiency they present with reference to the cause of these organic deviations; very rarely is a remote cause assigned, even a probable one, for these

anomalies. The etiological bearing of consanguinity does not appear to be even suspected. Hereafter we shall venture to hope that every physician who in the course of his practice shall have occasion to record new facts, will take care at least to mention this circumstance whenever it shall occur.

We must repeat it again, because this idea appears to be the expression of a general fact: Nature seems, by a terrible raillery, to protest against the violence offered her in these alliances, which, as Burdach expresses it, seem intended to disarrange the order of providence, the order of the universe. She lends a hand in the physiological tumult. Thus in some cases she inflicts a littleness of stature which is ludicrous when compared with that of the parents; she produces a sort of atrophy of the human nature. Sometimes she affixes a simple mark, a sign, as it were, of her displeasure; this may have no pathological character whatever; it is simply an expression of eccentricity. In this view, we call to mind a young lad, now about twelve years of age, born of parents who were cousins, who has upon his vertex a striated patch of black and white hair. He is well formed and healthy in other respects. If it be admitted, what in our view is extremely probable, that consanguinity tends to extinguish the reciprocal love of father and mother, their sympathy with each other, we shall then appreciate the assertion of an eminent physiologist: "When parents have an aversion towards each other, they produce (says Burdach) disagreeable forms—their children are of lower vitality and less active."

There are diseases of a mixed character, which affecting rather the texture than the ensemble of the vital forces, seem nevertheless to invest themselves with the character proper to certain diatheses. Of this sort is ichthyosis among cutaneous affections, and such too is enchondroma among maladies of the osseous system. Now we have known both of these to occur in connection with consanguinity. Among our eighty-two more recent cases, we found ichthyosis once; this product was the issue of a marriage between uncle and niece.

Among our collected cases we find but one individual deaf and dumb, and this a young girl. She was the issue of a marriage contracted between first cousins. Our attention has been called to similar examples in families of whom we have knowledge, but in these consanguinity of alliance has become established as a practice. Like idiocy and mental alienation, deaf-mutism appears as a frequent coincidence of

consanguinity. Dr. Menière, physician to the Imperial institute for deaf-mutes in Paris, has alluded to this with considerable earnestness. "It is a fact (says he) that many deaf-mutes are born under circumstances of this kind" (marriages in consanguinity.) * * "I may safely affirm at this day, that the cases of congenital deaf-mutism in families thus constituted, are sufficiently numerous to demand very serious consideration. It is very important to be advised of this singular fact."

M. T. Perrin has shown, that in the establishment for deaf-mutes at Lyons, of which he is physician, at least one-fourth of these unfortunate cases are the fruit of marriages in consanguinity, and the same is true in the establishment for incurables at Ainay, nearly one-fourth of whom show a like origin. These are astounding facts; above all, when we consider that the number of these marriages can hardly be estimated at more than a twentieth of those of the ordinary kind.

For some time past we have been in the way of observing a very curious fact, and one which enters into the category of those we have already pointed out, viz: the delay in dentition in children who are the issues of consanguineous alliances. Thus we know of children, at this moment three and four years of age, who have as yet no teeth. A young physician of Lyons, a very well informed person, M. Leopold Ollier, assures us that he has frequently observed this fact in the department where he was born, and where these alliances are common. With this delay in dentition is almost always associated an arrest of development in both body and mind.

Such are the anomalies and the somewhat exceptional maladies that we have had occasion to establish in families where for the most part these marriages were not repeated, or in which the practice was of recent date. Among these cases there are doubtless a large number of children who are exempt from all infirmity, and who present at least the attributes of moderate health. To recapitulate, we have in 121 cases, 52 instances of various abnormal changes. If from these 52 we subtract the 17 cases of supernumerary fingers or toes, which constitute eccentricities rather than true infirmities, there remain only 35 cases of those affected either by disorders of a true pathological nature, or by accidents which have extinguished the germs, those first hopes of manhood, prima spes hominis, as the poet expresses it.

Since the publication of these researches (about one year ago) we have been put in possession of new documents.

Two new cases of supernumerary fingers, one case of hypospadias rendering the husband impotent, one young woman of twenty years (born of a marriage between an uncle and niece), having perfectly white hair—these are facts which enter into the category of anomalies of organization. A large number of our professional brethren have cited to us unfortunate examples, either of sterility, or of divers maladies, but what is very curious, and calculated to confirm these observations, analogous facts have been furnished us by persons who were entire strangers to the profession. Several young men, after the reading of our memoir, or after a personal conversation, still hesitated as to the course they should pursue in regard to marriages in consanguinity, thus arrested in advance. Some among them, whom our counsels had deterred, returned afterwards, bringing with them the results of their own observations, drawn from the localities in which they lived, and furnished contributions to our statistics. One of them, since his attention has been called to the subject, has seen among the unions in consanguinity of his own acquaintance, one case of epilepsy, one of idiocy, and two of rickets. What our advice was unable to effect, personal experience has accomplished; these individuals have renounced the risks to which alliances, otherwise very advantageous, would have exposed them. Dr. Boinet of Paris stated to M. Macario, that he knows five different families in which there are five idiots, the issue of this sort of alliance: "There is (says Dr. Macario, in a notice of our work, to which he has added some observations of his own), a very rich Jewish family, well known in the world, which reckons in its midst cases of hemiplegia and congenital blindness, the results of family intermarriages. An eminent jurist, married to his own cousin, has lost three children of hydrocephalus. A manufacturer of Lyons, likewise married to a cousin, has had fourteen children, eight of whom have died of convulsions in infancy; among the remainder were a cripple without legs, and cases of tuberculosis and rickets, all of whom died early; one child only has survived."

For some time past, physicans in America have been making researches upon this point in hygiene, which may be said to be at the same time public and private. We place before the reader the observations most recently made: it will be seen to what extent they are confirmatory of our own.

M. Bemiss has succeeded, after having overcome many difficulties, in collecting exact information relative to the results of thirty-four alliances in consanguinity. Of these thirty-four, twenty-eight were between the first cousins, that

is between relatives of the third degree according to the civil law, and six between cousins in the second degree, relatives in the fourth degree according to the civil law. Of the thirty-four examples which form the basis of the work, in seven cases the union was sterile; twenty-seven times it was fruitful. The twenty-seven fruitful marriages produced one hundred and ninety-one children. The sex of the children could be ascertained in only thirteen of the marriages; these gave forty-nine boys and forty-two girls.

Of the twenty-eight marriages between relatives in the third degree, twenty-three were fruitful, and five sterile; and of the six marriages between relatives in the fourth degree, two were sterile and four fruitful. In the two last cases of unfruitfulness, the women were themselves the issues of marriages in consanguinity.

The average number of children in all the marriages was five or six. The average number in the fruitful unions alone was seven and a small fraction.

For the marriages between relatives in the third degree, the average number of children was 6.87, and in those of the fourth degree, 8.5.

Of the one hundred and ninety-two children, the issue of all these marriages, fifty-eight died shortly after birth. In twenty-four cases the cause of death is stated: in fifteen it was phthisis, in eight, spasmodic affections, and once it was hydrocephalus.

Of the one hundred and thirty-four children who have reached adult life, forty-six are of good constitution and healthy; thirty-two are mentioned as being ill-constituted and habitually unhealthy, but without particular details as to their condition. There are nine with regard to whom no information could be obtained. As to the other forty-seven, they are all either ill-formed or affected by more or less serious diseases; twenty-three of them are scrofulous, four epileptic, two insane, two are mutes, four are idiots, two are blind, two deformed, five are albinos, six are infirm, and one has chorea.—*American Journal of Insanity.*

BIBLIOGRAPHICAL RECORD.

I. *Transactions of the American Medical Association (instituted 1847), Vol. XI.*

The portly volume which is the annual embodiment of our national medical association, has been published, and is now on our table, in size fully equal and in quality comparing favorably with its ten predecessors.

While it has been frequently a subject of regret that an association numbered by thousands, containing so much of the talent and experience of the American profession, should have apparently succeeded in effecting so little either in reforming the defects or developing the interests of our calling; yet, when we compare the results of this body with those of either France or England, there is no reason for dissatisfaction. The eleven volumes of the Transactions contain an amount of useful and original matter well worthy of praise; and what is of more importance, the frequent opportunities which have been afforded for personal intercourse and interchange of views and opinions between medical men of our Union, have achieved a valuable end. It is impossible that five hundred physicians, representing all the states and territories of this wide-spread confederacy, should associate intimately with each other for several days, without producing a closer and more familiar feeling of mutual respect and confidence, tending to strengthen the whole class. Such has been the result of this organization.

We shall not attempt to give this volume more than a very cursory examination at present, preferring on a future occasion to devote our particular attention to its more interesting points.

It is gratifying to the friends of the association to observe

that its financial department is in a flourishing condition. The treasurer's report shows, that after an expenditure of *eighteen hundred dollars* in the publication of volume X, and in the amounts due to prize essayists, there is a handsome balance to the credit side of the ledger. We may be sure of the *vitality* of any voluntary association which has any money on hand.

The number of members and delegates present at the Washington meeting also indicates that the interest of the physicians in this matter is not waning. More than *five hundred* gentlemen from Maine to California represented the American profession in the federal metropolis; and we are justified in expressing the opinion that in all respects this large body compared most favorably with the national congress then in session in the same city.

The reports for the year 1858 are mostly of an useful and practical character. One of the longest is from the pen of Dr. Sutton of Kentucky; and while we find a great deal of irrelevant matter not adapted to a publication of a scientific character, yet it would be well if we could have a similar sketch of the topography of all the states, and the peculiarities of customs and the climatic or artificial modifications belonging to each section. A partial report on the "Epidemics of New Jersey," by Dr. Smith, and a similar one from Ohio, prepared by Dr. Mendenhall, are also included in the present volume. Of the other committees on general subjects, we may mention Dr. Palmer's resumé of the medical literature for the year 1857. *Thirty-one* original works and *twenty-three* new editions of native authors, give a convincing proof that the profession has not been idle. Besides this, we should enumerate no less than *forty* of the best emanations from the British press, and *eight* translations from foreign languages, to be added to the list. Surely, we must be reading men to justify the publishers of Philadelphia and New York in so large a pecuniary adventure as is demanded to bring before the public these expensive works, most of them illustrated at great expense. Finally, a list of *thirty*

American medical journals and *four* republications, exhibit the various channels through which the profession is supplied with the current literature of the day!

The report of the committee on "medical education" approaches that difficult subject with some reserve. Avoiding any very decided expression of views, it advises that by an associated movement the medical schools, the hospitals and the laity should combine to enlarge and improve our present system of education, in which it is easier to find faults than to suggest remedies. As a result of this suggestion, a convention of the professors has been called, to meet at Louisville on the day *preceding* the next meeting of the association; and a large number of schools will be represented on that occasion. From such a movement as this, good may come.

The report of the special committee on "umbilical hemorrhage in the newly born," by Dr. Jenkins, is an interesting summary of the literature of that subject. In the earlier volumes of this journal, this question was discussed, and the facts and results of past experience ably digested by Dr. Otis, now of Springfield, Massachusetts; and we observe that Dr. Jenkins frequently alludes to his valuable and suggestive essay.

We pass over the paper of Dr. Andrews on the "functions of the cerebellum;" that of Dr. Stephenson on "cataract," and another by Dr. Coventry on the "medical jurisprudence of insanity," without comment.

In a future number we intend to notice the very interesting contribution to the *hygiene* of our race, prepared by Dr. Bemiss of Kentucky, who has collected a great many statistics on the "*results of marriages of consanguinity*," which are equally startling and important. The prize essays by Dr. Flint on the "study of the heart sounds," and Pallen on the "anomalies of vision," also demand a more critical analysis than we can now venture to attempt.

II. *A Treatise of Fractures*—By J. F. MALGAIGNE, Chevalier of the Legion of Honor, Surgeon to Hop. St. Louis, &c. &c. Translated, with Notes and Additions. By JOHN H. PACKARD, M. D. Philadelphia: Published by Lippincott & Co. 1859.

WE cannot hesitate a moment to accord great praise to Dr. Packard, to whose industry we owe this excellent translation of Malgaigne's celebrated work. Unusually free from idiomatic phrases, clear and natural, and at the same time accurate, he has placed before the English reader, in a very satisfactory manner, one of the most valuable contributions to the literature of French surgery.

No one in the long list of modern authors in medicine or surgery can compare in all respects with M. Malgaigne. His style is correct and concise, yet very agreeable and remarkably simple. He renders himself entirely master of his subject, at least as far as the range of his own continent extends, and yet never fails by his great learning to exhume from the long forgotten past many valuable relics of the old school. In this excellent work we find all the author's merits conspicuously shown; and when we add that in the American edition is included the series of plates illustrating all varieties of fracture, a work to which M. Malgaigne must have given a vast amount of time, labor and expense, we need hardly say more to recommend its study to our readers.

We have said that M. Malgaigne always exhibits entire familiarity with the European literature of his subject—but, like most of the continental writers, he often ignores the labors and experience of his American brethren. Whether this fact is to be attributed to ignorance or contempt, we know not, but it would seem that in a work entirely devoted to the treatment of fractures, it is unpardonable not to notice, at least in a passing way, the American practice of applying extension and counter-extension, by means of adhesive straps—a method of procedure which we do not fear to say is by far the greatest improvement in the management of

broken bones, which has been attempted in our day. In the work before us, however, Dr. Packard has added a very excellent description of this practice, and has thus rendered justice to his countrymen, whose useful and practical suggestions are silently passed over by the learned Frenchman.

EDITORIAL AND MISCELLANEOUS.

Duties of Coroners.

["An Ordinance concerning the Coroner of the City of Richmond—Passed Dec. 13, 1858."]

THE only law which has heretofore regulated the official conduct of our coroners, is that found in the Virginia Code, section 1, chapter 202, to section 12, same chapter.

To show how inefficient the mere *statutory* law *must* be, we will only cite the first section, in part, and leave to our medical readers, who can well appreciate a coroner's duties, to infer the many embarrassments to which that officer is often subjected.

By section 1, chapter 202, "Upon notice of a death supposed to have been caused by violence and not by casualty, the coroner of the city of Richmond, if the dead body be in the penitentiary, and in any other case the coroner of the county or corporation in which the dead body is, shall issue a warrant to the following effect," &c.

The coroner must be *notified*—by whom? He must be notified that the death has occurred by *violence*—by whom? Suppose a body be found bearing no marks of external violence appreciable to the eye of a common observer, and the coroner is informed that a dead body has been seen with no

marks of violence upon it, yet it lies dead—has he a right under the law requiring notification of death, and that the "death is supposed to have occurred by *violence*," to issue his warrant?

On the other hand, the law being so inexplicit, coroners have thought proper to hold inquests in all cases of sudden death, and have themselves become the judges of their own propriety. They argued that it was impossible to say whether violence had been committed or not, until the inquest had been held and due investigation of the cause of death made. If the inquest returned "death by violence," then the coroner had executed the law of his office. If the inquest returned "death by *casualty*," then the coroner had performed his duty in endeavoring to discover whether or not *violence* had been committed. According to the section quoted, in this latter case, we see nothing but a circumvention of law, in order to gain the small pittance allowed the coroner by law (five dollars).

We have given no little portion of our "time for thought" to the office of coroner; and when, some eighteen months ago, it became vacant in this city, we tendered our counsel to some of the professional brethren concerning it, thinking that it was an office essentially adapted to the profession, and that, by a just *exposé* of the difficulties surrounding a proper and conscientious performance of it, our legislature might be brought to consider its importance, and appropriate a pay which would authorize its tenure by one qualified to fill it.

Dr. St. Geo. Peachy, our present most efficient coroner, was appointed by the governor, and made every effort to have the law revised by the last legislature. The legislature passed it by (pro tem.) and left him to his fate and his own interpretation of the law. He then made application to the common council of our city, and after explaining to them his position, his labors, his discharging bodies which were not subjects of inquest, and his ideas of the office, and its benefits to society, and for seven months' duty, rendering a

bill of $15 (!!) against the corporation for holding inquests, the council determined to issue the following ordinance, the caption of which is found at the head of this editorial. Let us hope that the councils of other cities will act with the same generosity and forethought—make the office what it should be, and accord due merit to the council of Richmond for having taken the lead in so important a measure. We propose to consider this subject again, and bring the attention of the medical profession to its importance, and its various bearings upon criminal justice and medico-jurisprudence.

An Ordinance concerning the Coroner of the City of Richmond—Passed December 13, 1858.

1. Be it ordained by the council of the city of Richmond, that a room, with the necessary furniture and fixtures, shall be provided, under the direction of the committee on police, to be under the control and management of the coroner of the city, for the use of the said coroner in taking inquests, and in the making of post-mortem examinations, and discharging any other duties of his office.

2. That the coroner be directed to report, semi-annually to the council, all cases in which he shall be called upon to examine a dead body, and shall examine the same, stating the nature of the case, and the apparent cause of the death.

3. That for all cases in which the coroner shall be called upon to examine a dead body, and shall examine the same, but shall not consider it a proper subject for an inquest, shall be entitled to a fee of five dollars for each case.

4. When an inquest is held over a dead body, in addition to the fee allowed by law, when the inquest is prolonged in consequence of want of or search for witnesses, &c. he shall be allowed a per diem of $5 while actually engaged in such inquests. And whenever the coroner shall deem a post-mortem examination necessary, and the same is made, he shall be allowed the sum of twenty-five dollars for such post-mortem examination, whether made by himself, if he is a physician, or some other physician; and this allowance shall be in full of any allowance by the hustings court of the city for this object, and any such allowance shall be paid by himself.

5. When the coroner is called to see a dead body, and

there are no friends of the deceased who will bury the same, he shall have the body decently buried, and shall be allowed the reasonable expenses attending said burial. But this section shall not apply to cases provided for by the ninth section of chapter 202 of the Code.

6. This act shall be in force from its passage.

The Dead of 1858.

In the long catalogue of worthies who have closed their earthly career during the past twelve months, we regret to include many of the most valuable members of the medical profession; and amongst these, there are some to whom, from the large space they have filled in the public eye, and for the sake of their devotion to the science they have labored to adorn, we desire to give at least a parting notice.

The continental profession have mourned the loss of some of its most prominent members. Amongst them, we should particularly notice Mauthner of Vienna, whose name has been repeatedly brought before the readers of this journal as a careful and experienced observer, especially of the diseases of infancy. In the treatment of children he had much experience, owing to his connection with the great child's hospital of Vienna.

The University of Berlin has lost during the past year, its professor of obstetrics, Von Busch, whose reputation has not extended however far beyond the confines of his own country; but in the death of Johannes Muller, the physiologist, medical science will miss one of its most profound investigators, for at the premature age of fifty-seven, this eminent man had won for himself a world-wide name.

In France, we need only mention the deaths of two prominent men, who are familiar to American students. Gensoul of Lyons, a surgeon of some distinction, and Chomel, the brilliant cotemporary of Broussais, Louis, Andral and Velpeau, who has long enjoyed an honorable position amongst

these distinguished confrères. He died at an advanced age, leaving an immense fortune, won by his own merits, to his descendants.

With the British profession we are united by the ties of a common ancestry and language, and we feel more nearly the loss of our brethren, whom we look upon as a part of ourselves. The year 1858 closed the lives of some very eminent members of the profession—CRAMPTON of Dublin, and TRAVERS and Dr. RICHARD BRIGHT of London—all names with which we have for years been familiar.

Sir Philip Crampton, in his long life of *eighty-two* years, had filled every post of honor which could have been conferred on him in Ireland. He was one of those whose life seemed to be one continued success, equally marked in his profession and in society.

Mr. Travers, known as a surgeon of reputation even when ASTLEY COOPER lived, closed his life during the past year. He died of an affection of the heart he had suffered with since 1806, more than fifty years.

Dr. Bright belonged to that most valuable class of British pathologists, who began with SYDENHAM, and still survive in ADDISON. He is especially noted for his investigations into the varieties of nephritic disease, and will live in the history of medicine as the first to elucidate the doubtful pathology of the MORBUS BRIGHTII.

The Mütter Museum.

IT may be remembered, that when failing health compelled Dr. Thomas D. Mütter, the distinguished professor of surgery in the Jefferson medical school, to withdraw from his elevated position as a teacher and surgeon, he proposed to endow the Philadelphia college of physicians with his valuable museum.

Owing to some unforeseen delay, this intention has but recently been carried into effect. The College of physicians have, however, accepted the donation of Dr. Mütter, who has also munificently added a fund of *thirty thousand dollars*, the interest on which is to be appropriated to the institution of a yearly course of lectures, to be delivered before the College of physicians. The museum will be deposited in a fire-proof building, to protect it from injury, and the name of the liberal donor will be commemorated in every recurring series of the "Mütter Lectures."

An Examination of the Question of Anæsthesia, arising in the Memorial of Charles Thomas Wells, presented to the U. S. Senate. By the Hon. TRUMAN SMITH, U. S. Senator from Connecticut.

THIS is a reprint of a paper submitted to the consideration of a committee of the United States Senate, in the session of 1852–3, to whom this subject was referred by that body, and was prepared by the friends of Dr. Horace Wells, who claim that he preceded others in the use of anæsthetics. Allusions were made in the October number of the Monthly, to the fact that Dr. W. T. G. Morton is soliciting endorsement and money to make up the neat little sum of 10,000 dollars for his pocket; and the reprinting of this pamphlet, containing an excellent summary of Dr. Horrace Wells' claim, is caused by his pertinacious begging. The Hon. Truman Smith, late U. S. senator from Connecticut, who was a member of congress at the time of its first publication, has prefaced it with some remarks upon Dr. M., and his reasons for now stirring this old subject. We had before heard the same statements made, but not quite so fully and completely. We therefore copy what Mr. Smith says, and if any one hereafter wishes to endorse Morton, or contribute money to his necessities, they can do so, but we shall continue to decline to do either.

While Morton was in Washington in pursuit of this object (lobbying a bill for his benefit to the amount of 100,000 dollars), his expenditures were understood to be very lavish. He took possession of one of the committee rooms at the House, and there and elsewhere proffered to members, both

actual and *lobby*, a profuse hospitality. Champagne, segars, and oyster suppers abounded, and the idea seemed to be entertained that such seductive influences would aid powerfully his contemplated foray on the treasury. The undersigned must not be understood, in making this statement, to speak of his own personal knowledge, but merely of what was currently reported, and generally believed. Being well assured that Morton was as destitute of property as his pretensions were of merit, it was for a long time a profound mystery to the undersigned where he could have obtained the means to sustain so much profusion. But ere long the veil was withdrawn, and the transaction stood revealed to the world in its true character.

W. S. Tuckerman, treasurer of the Eastern rail road company, was detected as a defaulter early in the summer of 1855. It turned out on investigation, that he had robbed his employers of little short of a quarter of a million of dollars, and that no less than $ 50,000 of the amount had gone into the hands of Morton in connection with this appeal to congress—whether by way of purchase of an interest, or on some other terms, did not appear. Tuckerman, in the fall of that year, was prosecuted for embezzlement, and on the trial Mr. Benjamin T. Reed was introduced as a witness, and testified that Tuckerman came to him and confessed his crime, and among other things said he had let Morton have a part of the money. Witness said: "He begged me to keep the name (Morton) secret, as (if known) it would prevent him from getting the money. I said I did not see how he could keep it secret. When I asked him if the amount was more than $ 5,000, he said it was more. I went as high as $ 20,000. In each case before reaching that sum, when I asked him, he said it was more. I had my fears it was more, but I do not recollect he said it was more than $ 20,000." At a subsequent period of the trial the same witness testified that Tuckerman "thought it important that the name of Dr. Morton should be kept secret, as he (Tuckerman) expected a large sum of money from that quarter, if confidence was not violated." On being cross-examined, the witness said: "I understood his object in making this request was, that the exposure might not affect the action of congress. He said the secretary of war had assented to the payment of $ 50,000. Dr. Morton's name was the only one he then used. I supposed from his manner that the sum loaned (meaning to Morton), was larger than he stated." On the same occasion Mr. Hooper was called as a witness, and testified: "He (Tuckerman) next spoke of advances to Dr. W. T. G.

Morton to assist him in securing a patent at Washington, or in obtaining reward from the government for his invention of ether. He was surprised to find, by consulting his book, how much this amounted to. Dr. Morton, he said, was about to receive $100,000 from the government for his invention."

Soon after the detection of Tuckerman, the stockholders of the rail road company had a meeting, and appointed a committee of investigation, whose report, dated July 30th, 1855, is now before the undersigned. They found the aggregate amount of his embezzlements to be $245,103 25! and that he had property and assets to the amount only of $59,444, leaving a balance of $185,608 25, for which no provision could be made, and which must therefore be a total loss to the company. On pages 23 and 24 of the report may be found a statement of the objects or purposes to which Tuckerman had applied his plunder, and among them this curious item appears:

> An investment of a kind and character which we are advised by the counsel of the corporation cannot be disclosed, even to us, without prejudice to the interests of the company, and from which we are assured, and have reason to believe, the company, may yet derive great benefit, involved, as Mr. Tuckerman declares, in an expenditure of - - - - - $50,000

It will not take a very sharp pair of spectacles to read under this verbiage the name W. T. G. Morton. It will not be difficult to find in these developments a true symmetry between the pretensions of Morton in their essential elements and characteristics, and the measures adopted to obtain for those pretensions the sanction of congress, at a cost to the treasury of $100,000. Tuckerman was surprised, on consulting his books, to find how much he had advanced to Morton. Probably he was not, after robbing the U. S. mail several times, very much surprised to find himself (as he has recently) at the Connecticut state's prison at Wetherfield. What an admirable fitness was there in the selection of *such a financier* to respond to *lobbying exigencies* at Washington!

We have, in the facts alluded to, an explanation of another mystery, and that is, why Morton has not persisted in his solicitations at Washington, particularly as, according to Tuckerman, the secretary of war was prepared to countenance an appropriation of $50,000. The reason may be found in the fact that every cent which he might thus obtain would have to be handed over to the Eastern rail road company, to supply (in part) a sad vacuum in their exchequer, made in the manner already explained. Hence Morton, fully

determined to "put money in his purse," has turned from congress to the public, and is now appealing to the humane, the generous, and the affluent, to recognize him as the author of anæsthesia, and to reward him as such with a munificent token of their gratitude and esteem.

It is submitted, that Morton has no moral right to one penny to be derived from his pretensions, even though those pretensions be deemed genuine; all is pledged to the Eastern rail road company. To pass by the representatives of the people, and to address his solicitations to the people themselves (thus ousting the company of all beneficial interest), is a mean artifice or subterfuge, such as no man of honor can either practice or approve. Whether Morton should succeed in such an undertaking, let the public judge in view of these and other facts disclosed in the subjoined papers.

Am. Med. Monthly.

VARIETIES.

Medical News and Items.

NATURE AND ART IN DISEASE.—The following remarks are from a very able address by Mr. Browne at the first meeting this session of the Belfast clinical and pathological society:

"There cannot be a question that nature, uninterfered with by drugs and having fair scope for the exercise of her innate sanative power, will, especially in many acute diseases, overcome the morbid perturbations of the system, restore the normal functions, and bring about that comparative state of the body which we denominate healthy. But how seldom is it that nature has this fair play—this requisite, uninterrupted exercise of the restorative functions! Few, if any of the sick, are so circumstanced that they may not be said to be placed in a condition unsuitable, in many respects, for the wholesome action of the vis medicatrix naturæ, and this may arise from necessity, ignorance, or the pseudo-medical knowledge of the patient or friends. Take, for instance, a case of measles, scarlet or ordinary fever, and see how much necessity, ignorance, or pseudo-medical skill may complicate the complaint, and retard, if not entirely nullify the efforts of nature to shake off the disease. Then it is that the first display of the curative powers of the medical art comes into operation. The experienced physician at once sees what it is that interferes with the natural progress of the malady. Necessity in one case compels the unhappy patient to be in a low, damp, badly-ventilated situation, without nourishment or without

the means of cleanliness; ignorance, in another case, excludes the light and air, and heaps on loads of bedclothes, and pours down floods of warm drinks; while, in a third case the pseudo-medical knowledge of the patient or his friends employs all the domestic remedies, from a teaspoonful of sulphur to a glass of whisky punch, or from the hot posset, drugged with saltpetre, to the cold and nauseous draught of Epsom salts. Now, what are the curative means which the experienced physician first employs in the instances I have just related? He merely vindicates the rights of outraged nature. He removes the first case into a pure, dry air, administers proper nutriment, gives a cleansing bath, and supplies fresh linen; in the next, he admits a due supply of light, ventilates the apartment, reduces the clothing, forbids the tepid inundations, and allows the use of pure cold water; while, in the third, he employs similar conditions, and strictly excludes every portion of previous domestic drenching. Having done so, he quietly watches the progress of his cases, and, in almost every instance, he finds that he has done all that art requires him to do; nature accomplishes the rest. Yet, in all these instances, though he never has exhibited a single drug, will any reasonable man say, that by his knowledge of medical science, he has not accomplished all that could have been done—namely, by having put his patients in the right road to recovery, the disease has been cured? Nay, more, has he not thus simply proved the first principles of the curative power of medical art, by his having removed the impediment which obstructed nature in her struggle with disease?"

QUACKERY IN FRANCE.—THE PHYSICIANS DEMAND PROTECTION OF THE GOVERNMENT.—THEIR PETITION TO THE EMPEROR.—SIR—At an epoch in which the history of your benevolence is written in ineffaceable characters on the face of France; at the moment in which society, imitating your example, is striving to ameliorate the condition of the poor classes, the medical corps deem it proper to call the attention of your Majesty to one of the social evils which paralyze your generous intentions.

Sir, along side of that medicine consecrated by the experience of ages; of that medicine which consoles and cures, there boldly marches an ignorant, sordid and illegal medicine.

If, in the cities, the instruction of the masses can sometimes counteract its grievous effects, it is not so in the country, where unfortunately ignorance still predominates, and where it lavishes its scandalous and deceitful promises with unrestrained publicity.

Sir, there is in this a serious danger, a barrier which constantly impedes that impulsion which you so freely give to morality and humanity.

Permit us to hope that your majesty, so careful of the children of the poor, and so provident for the aged poor, will deign to pursue his work by protecting the whole community by an efficacious repression against the illegal practice of medicine.

Such, sir, are the wishes of the medical corps, so often called to the honor of propagating the benefits of your touching solicitude for the suffering, but too often fettered by prejudice in the accomplishment of its mission of humanity.

We have the honor to be, with the most profound respect, the very humble and the very devoted servants of your majesty.

Paris, Sept. 1858. [*Signatures.*]

The above is a copy of the petition of the deputies of the medical societies of the Seine to the emperor, who received it with great complaisance, and even with gratification. The emperor expressed surprise that the practice of medicine was not more effectually protected by existing laws, and enquired if it were possible that remedies were advertised in the public journals, and sold to the public, without having first received the sanction of the Academy of medicine; and he promised that the petition should be sent to the proper minister with special instructions to examine it and give it the attention that its importance demanded.—*Nashville Med. Jour.*

SCARCITY OF WOMEN IN VICTORIA.—The supply of wives runs short in Victoria. The last returns of the registrar general of the colony show, that out of a population of 470,000, there are only about 168,000 women to 302,000. And the matter is getting worse in this respect; for adult males are still running to the loadstones at the gold fields. 134,000 males are thus left hopeless bachelors; and yet there is no set of men in the world more able or willing to take and maintain a wife, and bear the consequence of marriage. With such facts before us, it is sad to think of the numbers of young women who are daily driven by want and misery into the depths of vice and degradation!

INTESTINAL WORMS IN EDINBURGH.—Professor Bennett says that intestinal worms are very rarely observed in the human inhabitants of Edinburgh. If so, what is the peculiarity in the diet or drink of the Scotchman, which produces such a desirable conclusion? He himself seems to attribute the fact to the oatmeal (vegetable) diet of the cannie folk.

FETCHING THE DOCTOR.—A few days ago, says a Munich letter, a female fainted in one of the streets of this city. An elderly gentleman, who approached the spot where she was lying, requested some of the persons present to go and fetch a medical man. They all replied that they knew not where to find one. "Well, then (he said), I will go myself." And in a few minutes he returned with a doctor, who applied the proper remdies. The kind-hearted old gentleman was King Louis of Bavaria.—*Lancet—Boston Journal.*

THE CORSICAN BROTHERS.—"I once (says M. Trousseau) had two brothers for clients, who were twins, very rich, and both directors *de maisons de jeux celebres*. They were so like each other, that I did not know them apart. But more than this, they had a remarkable pathological similitude. Thus, one of them whom I saw at Nesthermes, suffering from a rheumatic ophthalmia, said to me, 'My brother at this moment must have an ophthalmia like mine.' And as I dissented to this, he two days afterwards showed me a letter from his brother, who wrote: 'I have my ophthalmia, thou must also have thine.' However singular this may appear, it is perfectly true; I have witnessed similar facts. These twins were also both frightfully asthmatic.—*Am. Druggists' Circular.*

VIRGINIA

MEDICAL JOURNAL.

MARCH 1855.

ART. I.—*Reports of Cases in Country Practice.* By A. J. TERRELL, M. D., of Henrico County, Va.

CASE I.—I was called, March 1st, 1855, to see Mr. N—— K——, farmer, aged about 45 years, in consultation with my friend Dr. J. N. Powell of Henrico, under whose care he had been for several weeks. His health had been good up to the time of his present illness. He informed me that he had been suffering with "a deep cold," caused by falling in an ice-pond while engaged in getting ice; said he had had, from the commencement of his attack, cough, fever, slight pain in the right side, and some expectoration, which was occasionally tinged with blood.

I did not proceed to a minute examination of his case at once, as Dr. Powell had not arrived. While waiting for the doctor, he suddenly, in a paroxysm of coughing, commenced expectorating a thick fœtid matter of a grayish color, intermixed with masses of white substances resembling grains of boiled rice, though some were larger. The amount expectorated at this time was about four fluidounces. His breath partook of this fœtid odor to an equal extent, rendering the room extremely disagreeable. Respiration was but slightly accelerated.

Upon an examination, we found him without fever; pulse

less frequent than the average standard, about 60 per minute, regular, and of sufficient volume; skin dry; tongue clean; bowels inclined to constipation—had been moved the day before by medicine; no appetite. Physical examination of his chest was not satisfactory, owing to the soreness of a large blister over the seat of pain. All portions of the lungs examined seemed healthy, except perhaps an increased respiratory murmur in the upper part of the right lung. The lower lobes were not examined.

Treatment.—Directed cod-liver oil, which he had been taking for several days, to be continued, a tablespoonful three times a day, also a teaspoonful of the following prescription three times daily: ℞ Syr. senega, tinct. gentian comp. aa, ℥ij, and an aperient pill at bedtime, composed of rhubarb and aloes.

March 2d.—Saw him together with Dr. Powell. Cough had been very troublesome since yesterday, especially during the night; expectoration copious, and presents the same character; breath more offensive; more feeble and restless; spirits very much depressed; slept but little since yesterday; pulse 55, and slightly irregular, but natural in other respects; tongue clean; skin dry; has suffered no pain, except a slight uneasiness in right side; bowels not moved. To-day we examined his lungs more satisfactorily. Right lung resonant, with the exception of slight dullness in infra-axillary region. On auscultation, a gurgling sound was heard in the same locality, with imperfect pectoriloquy. Left lung resonant throughout, nor did auscultation reveal any abnormal sounds.

Treatment.—Same remedies continued, with the addition of a teaspoonful of the following solution, to be given occasionally, to allay restlessness: ℞ Morph. sulph. gr. i; aq. fort. f℥j, ft. sol. Bowels to be moved by ol. ricini, and the blister reapplied.

March 3d.—Dr. Beale of Richmond saw him this morning with us. No material change since yesterday; has expectorated about a pint in the last twenty-four hours, which was

slightly tinged with blood; oil has operated once; stool healthy; blister has drawn well.

Treatment.—Morphia to be discontinued; other medicines to be given as before. He was allowed porter, and a generous diet, consisting of mutton-chop, beefsteak, and milk and rice.

At 10 P. M. I saw him again, on account of a violent fit of coughing, which, before I arrived, had ceased. Did not deem it necessary to administer any thing.

March 4th.—No change since yesterday.

Treatment.—Same, with the addition of a teaspoonful of tinct. hyosciam. at bedtime.

March 5th.—Condition pretty much the same; emaciation quite perceptible.

Treatment.—Same.

March 6th.—Saw him to-day with Drs. Powell and Beale. No material change in his condition.

Treatment.—Prescribed for him ferri ferro-cyanuret, grs. v, quin. sulph. gr. j, three times a day, before meals; cod-liver oil and syr. senega to be continued as before; the oil to be gradually increased; blister to be kept sore.

From the 6th to the 30th of March, there was very little change in his condition, with the exception of gradual emaciation and debility; but this was far less than what we would expect under such a state of things. His pulse continued remarkably slow, ranging from 50 to 60, and of usual fullness. Suffered, generally, some uneasiness in right side, never amounting to decided pain. The disagreeable odor about his breath and expectoration continued, which he complained of very much, causing nausea, sometimes vomiting, and keeping him with a bad taste, which prevented him from enjoying his food as much as he would otherwise have done. He, however, partook tolerably freely of nourishment, porter and milk toddy. Tongue remained clean; bowels inclined to constipation; he was generally restless, and much concerned about his condition; seemed inclined to sleep, but was prevented, to some extent, by fre-

quent fits of coughing. Physical examination of the lungs was made from time to time, which afforded pretty much the same results as our first—slight dullness in infra-axillary region, and gurgling sound with indistinct pectoriloquy. Towards the decline of the disease the gurgling murmur ceased, and in its stead was heard a slight whiffling sound. There was no appearance of the white masses in the sputa after the 6th. Towards the end of the third week from the time I first saw him, an improvement of all the symptoms was manifest; cough became less troublesome, expectoration diminished, and lost gradually, as well as the breath, the fetor; slept better; appetite and strength improved; pulse became more frequent *pari passu* as the other symptoms abated, until it reached its normal frequency. About the 30th convalescence was well marked, and progressed rapidly.

As regards the treatment, it was the same as prescribed on the 6th, without the slightest deviation—the iron and quinine three times a day before meals, and cod-liver oil and senega an hour after; right side of chest kept sore by blisters and ungt. ant. et pot. tart.; bowels moved occasionally with castor oil, which generally procured one or two healthy evacuations.

After convalescence was decidedly established, all remedies were discontinued, except the cod-liver oil, which was continued regularly for several months.

This gentleman is now, and has been since his illness (nearly four years), enjoying good health. I have prescribed for him during the last twelve months several times for slight indisposition, brought on by exposure. He is still using cod-liver oil, and says he cannot omit it any length of time without experiencing pains about his chest, and cough. So inseparable is he and cod-liver oil, that his neighbors have applied to him the soubriquet "*Old Cod-liver.*"

I regard this a case of *circumscribed gangrene of the lung*, caused by a conglomerate mass of tubercles which acted as a foreign body, liable at any time to set up an inflammation.

May we not conclude that the further development of tubercles is arrested by the use of cod-liver oil?

Case II.—I was requested, January 14th, 1857, to visit Capt. B—— H—— of Hanover, farmer, aged about sixty. His health had been bad for the last fifteen or sixteen years, sometimes confined to his bed for several weeks or more at a time, with cough, and pain about his chest. He had recently been under the care of Dr. Thomas Johnson of Richmond.

Phthisis was evidently the disease under which he was laboring, and no doubt existed since the commencement of his bad health. He was a man who in early life indulged freely in the good things of this world, and had been particularly fond of fox-hunting, fishing, and such like amusements, which he was able to enjoy, to some extent, until very recently.

I found him in bed, very feeble; much emaciated; no appetite; bowels constipated; pulse 100 per minute; skin dry and warm; cough distressing, with copious muco-purulent expectoration; severe pain, extending from the left nipple to the axilla on the same side. Upon this side there was a large circumscribed tumor, occupying the mammary region, and extending nearly to the axilla. It was elastic, and emitted, on percussion, a sound resembling that produced by striking the distended cheek. Auscultation revealed a large cavity in the lung beneath this tumor. There were indications of tubercles in the remainder of this lung, also in portions of the left.

I directed a blister to be drawn over the tumor, and dressed with flax-seed meal poultices, and gave him hydrarg. chlorid. mit. grs. vj; rheum, grs. x, to be followed in eight hours by castor oil, should there be no action from the bowels, also a tablespoonful of cod-liver oil in a wineglassful of an infusion of wild cherry bark and seneka root, three times a day and an anodyne at bedtime, to allay cough

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and procure rest; diet to consist of chicken or beef soup; milk toddy every three or four hours.

I saw this man every day or two until about the first of April. Up to February 23rd his condition became daily more alarming; hectic fever set in, with copious night sweats; pulse became more frequent and very feeble; appetite remained bad; cough distressing, with an abundant expectoration; respiration more hurried and labored, so much so, that it was with great difficulty he could converse. The tumor, in the mean time, underwent but little change. Sometimes it was smaller and not so tense. On coughing it increased, and would again subside when the paroxysm was over, indicating plainly that it was connected with the cavity in the lung. He was kept upon cod-liver oil, with an infusion of seneka, porter and a generous diet. Other remedies were used from time to time as circumstances would require.

February 23d.—I opened the tumor, when it immediately collapsed, with an escape of air, which continued to pass in and out at each inspiration and expiration. The opening was made a little to the right of the sternum, in a line with the nipple. On introducing a probe, it passed about three inches just beneath the integuments, to the point of entrance to the cavity in the lung. I directed a piece of lint to be kept over the orifice, and the same treatment to be continued. When I saw him again, there had been a free discharge of matter from this aperture, similar to that expectorated, and continued to flow, especially when he turned upon his face. Cough was much less troublesome, with scarcely any expectoration; had rested better, and felt more comfortable in every respect. From this time he continued to gain strength and flesh, until he was able to leave bed. I discontinued visiting him about the first of April, when he was so far improved that he could walk out of doors, and give some attention to business. During the summer and autumn he continued to go about, and seemed to enjoy a

moderate share of health, frequently riding to his neighbors', and rode horse-back several times to Richmond, a distance of eight miles.

The opening in his side became fistulous, through which matter from the lung continued to pass. Whenever it became stopped up, which it sometimes did, by hardened pus, he was more troubled with cough, but was relieved so soon as the obstruction was removed so as to allow a free passage to the matter. Frequently a blowing sound, audible in any part of the room, was occasioned by the air as it passed in and out through the opening at each act of respiration. When he coughed, it passed out with considerable force, sufficient to extinguish a candle if held near the orifice.

In March 1858 his health again failed; cough returned, though the aperture continued to discharge abundantly; there was but little expectoration; dropsical swelling of his feet and ankles supervened; diarrhœa set in; and a total loss of appetite. He gradually declined, and died June 17th.

It would have been desirable to have made a post-mortem examination, but none would be granted.

An opening through the walls of the chest, communicating with a cavity in the lung, is of rare occurrence, though it is not difficult to imagine how such a phenomenon might be occasioned. In this case, no doubt, there had been an abscess of long standing, near the surface of the lung; the two layers of pleura took on inflammation, and were consolidated by adhesion, through which, by the process of ulceration, a communication was formed with the cellular tissue beneath the skin, allowing the passage of air from the lung, which occasioned the tumor. This union of the pleuræ was a timely interposition of nature, for if this had not taken place, the contents of the abscess would have been emptied into the pleural cavity, and immediate death might have been the result. A similar provision of nature occurs in the formation of artificial anus. This man's life was no doubt protracted by the means of this fistulous opening, as was evident from the immediate improvement which

took place in all of his symptoms so soon as the communication, externally, was completed. It afforded a free and continual passage for the matter as it collected, thereby relieving the system of a source of irritation, which otherwise would have existed.

ART. II.—*Operation for Artificial Pupil, by Separation and Excision.* By E. P. MORONG, M. D., Baltimore, Maryland.

I SEND you the report of an operation for artificial pupil, which presents, I think, some points that may not be uninteresting to the readers of your excellent journal—not only from the complications and difficulties of the operation, but also from the large amount of vision obtained, commensurate with the small hope which the nature of the case presented in opposition to any successful termination.

In December 1856, Major C——, æt. 55, a gentleman of florid complexion and full habit, had an attack of catarrhal ophthalmia. The inflammation being inconsiderable at first, he paid but little attention to it, continuing as usual his daily occupations. It soon, however, began to partake of a more violent character. He then sought medical advice, and was ordered to apply poultices to his eyes (which were continued uninterruptedly for three weeks or longer), and to make his diet as generous as possible.

The result of this treatment was total blindness. What other termination could have been expected? A plethoric individual, suffering from an acute and painful ophthalmia, is advised by his physician to poultice his eyes, and dine sumptuously.

I cannot refrain in this connection from saying a few words against the injudicious practice of poulticing the eye in inflammations of that organ; for the number of cases of partial and total blindness, resulting wholly or in part from their employment, which have come under my observation, in-

duces me to believe that their use is in favor with many members of the profession; and I deem it not inappropriate here to discourage such applications. I conceive it to be highly injurious to poultice the eye, in any inflammation of the globe, but more especially, in such as implicate the cornea—not only from the neglect and uncleanliness to which the part is subjected in consequence, but also from the emollient effect of the poultice, in addition, rendering the cornea more liable to ulceration, suppuration, and finally rupture; and, I consider "any patient entitled to recover damages in whom the disease (ophthalmic inflammation) has terminated unfavorably, whenever it has done so under the application of a poultice."

Major C—— came under my care in the early part of January 1858. His eyes then presented the following appearance: Right, atrophied, with cornea staphylomatous, and lined by the adhering iris. Left, considerably injected; cornea densely leucomatous to the extent of more than three-fourths of its diameter. This opacity was centrally situated, and somewhat triangular in shape, leaving three tolerably clear segments—two at the superior, and one at the inferior edge of the cornea. A broad fasciculus of red vessels passed over each of these spots, and lost itself in the leucoma. The central portion of the cornea presented a distinct ridge, running parallel to the edge of the lids, with a corresponding flattening above and below, produced probably, while the cornea was in a softened state, from inflammation, by the pressure of the poultice, which, acting through the medium of the lids, forced the central part of the softened cornea into the elliptical space formed by their posterior edges when in apposition.

He is now obliged to wear glasses of a very short focus, to overcome the presbyopic condition of the eye consequent upon this shape of the cornea. There was pretty general synechia anterior, and the nasal and temporal sides of the iris, especially, seemed to be firmly adherent to the posterior face of the cornea. The upper edge of the pupil could be

indistinctly seen, when looking from above downwards, and was perfectly immovable even under the influence of belladonna, but yet appeared of its usual clear black color.

From the flattening of the cornea and the bulging forwards of the iris, the anterior chamber appeared completely wanting, and I anticipated much difficulty in inserting my instrument between these membranes at the time of operating.

The superior and inner transparent segment of the cornea, measuring one line in width by about three in length, was selected, behind which to operate, as being the best position for the new pupil, although smaller and not so clear as the inferior segment; but the latter was unfortunately covered by the lower lid in the open eye.

I did not, however, deem it advisable to operate at this time, on account of the injected state of the blood vessels, and I therefore put him on an alterative course of the sulphate of quina, with blue mass, and ordered a mild astringent wash to be applied to the eye two or three times daily, and counterirritation to be kept up behind the ears, with a view not only of removing this condition of the vessels, but with the hope that the nebulous edge of the lucid segment, where it joined the more dense opacity, might be dissipated; for, as many of the rays of light which would enter the eye through an opening so near the edge of the cornea, could not reach the retina in consequence of being intercepted in their course by the ciliary processes, the anterior extremities of which are placed behind this part of the cornea, it was desirable to increase the width of this segment as much as possible, even if it were but the fraction of an inch.

This course of treatment was persevered in up to the first of May. The fasciculi of vessels having by this time disappeared, and the transparent segment of the cornea being clear and its edge pretty well defined, I proceeded on the 10th instant to operate. I was kindly assisted by Dr. R. W. Brown. The instruments used were Jaeger's keratome, Juengken's iris hook, and a pair of curved scissors.

The cornea was opened midway between its middle and

upper edge, by a vertical incision made in the opaque part. As the course of the instrument could not be seen, and as the iris approached so near the cornea, the utmost caution was required in penetrating the anterior chamber, to avoid wounding the iris, which, from the apparently diseased condition of that membrane, would most probably have produced rapid effusion, and consequently, from the limited space for the operation, have prevented its conclusion. The incision was enlarged below sufficiently for the passage of the hook, by moving the point of the knife towards each angle of the wound. The hook was then introduced and pushed along between the iris and cornea, until the convexity of its curve reached the circumference of the iris behind the lucid edge of the cornea. The iris was here seized, and separated from its connections, by slowly and carefully withdrawing the instrument, leaving a pupil of one line in width by two in length, its width being determined by the clear edge of the cornea, and its length by the opening in the iris. The detached portion was now snipped off, and the lids closed.

As was apprehended, effusion took place immediately, and had completely filled the anterior chamber before the operation was finished. Water dressings were now applied, and the eye kept closed. He had no pain and no inflammation. On the fifth day the bandage was removed, and the eye examined. The pupil was still filled with effused blood, and there was no improvement in vision. On the eighth day the effusion had sensibly diminished, and he could count his fingers, or distinguish an object, such as a bunch of keys, when held within a few feet of him.

Since then, up to the present date (January 20th), his vision has steadily improved, and he can now walk the streets, or recognize any acquaintance with perfect ease, and read print of the size of the word *Richmond*, on the title cover of this journal.

This case appears to me interesting, from the happy suc-

cess of so unpromising an operation, and from the large degree of vision now enjoyed by the patient through an opening so small indeed, and seated at the very circumference of the iris.

ART. III.—*On the Speculum Vaginæ.* By JOHN P. METTAUER, M. D., L. L. D., of Virginia.

THE employment of this instrument, of late years, in the exploration and treatment of uterine affections, has become almost as common as the stethoscope and percussion in the diseases of the thoracic organs. Even inexperienced practitioners, who have barely laid aside the swathings of their pupilage, presume to employ it, and speak authoritatively of the mode of applying it, as well as of the diseases demanding its use. They seem to regard the operation as a thing of little importance, as far as female delicacy is concerned, and to believe that poor woman should submit to it, even if a disease of the uterus is only suspected to exist, that might possibly render the speculum necessary hereafter.

Every enlightened and humane physician will concede that a necessity will sometimes arise for the employment of the speculum, as well as other modes of exploration, repulsive to female delicacy. In such cases a sacrifice of delicacy becomes a duty, and sensible women unhesitatingly submit to its wise and sacred behests.

The writer has undertaken this communication for the purpose of showing that the speculum, in the investigation and treatment of uterine diseases, has been needlessly employed, and its value, as a means of diagnosis, greatly abused. That the instrument is entirely unnecessary in a large majority of uterine diseases, the writer's experience abundantly testifies. His experience with the speculum,

too, has long since satisfied him that the evidence furnished by it is often unsatisfactory, and not to be relied on, nay, in some instances, it is actually deceptive, by reason of the changes caused in the state of the os and cervix uteri, by the pressure of the instrument on them. It has frequently been the case, in the hands of the writer, that the pressure of the speculum has so changed the color and presenting surface of those parts, as actually to defeat the objects of the examination; and such will often be the case in engorgement of the uterus, and when there is malposition of it from retro or antiversion. Generally, in determining as to the existence or non-existence of induration, engorgement, the deviations of position, internal ulceration, and, very frequently, of ulceration of the os itself, no matter how carefully and skillfully used, it affords little if any information of a reliable and useful nature. Even when the three or four bladed instrument is employed, the operation and results will be obnoxious to these objections in a great degree, and they are the only reliable forms of vagino-uterine speculums in displaying the parts to be examined, and are also more readily and easily introduced; yet, little difficulty will be encountered in the use of any of the speculums now in use, even with a mere novice, who has carefully studied and learned the form, course, and depth of the vagina, the highly wrought and fanciful account of such difficulties, published in the Monthly Stethoscope and Medical Reporter, No. 2, vol. 2, for 1857, to the contrary notwithstanding.

It is not pretended that the speculum is useless, or absolutely unnecessary in vaginal and uterine diseases. Far otherwise—as the writer has employed it in those diseases in some instances with the best results. It is to the officious and indiscriminate employment of it that he objects, and to the exclusion and neglect of the more reliable and delicate mode of examination by the "toucher."

The speculum has not found general favor in France, although much employed in that country. At the head of its opponents there, the name of the distinguished Velpeau

stands conspicuous; and it is matter of gratulation to the writer to find his views supported by such high authority; yet he had entertained those views and carried them out in practice years before he was aware that Velpeau had expressed similar opinions and objections.

It is probable that the physicians of this country and France more generally and indiscriminately employ the speculum than any others in the civilized world; and it is probable also that the taste for using it is due, in a degree, if not wholly, to the cliniques, as well as to the hospital practice connected with the medical schools of those countries, where female delicacy and exposure are regarded with little concern, as the subjects of the use of the speculum are derived from the most degraded classes of society, with whom modesty is only known by name. In many instances, the writer has met with women laboring under organic diseases of the uterus, who declared to him that they would sooner take their chance to live or die with the disease, than submit to the use of the speculum; and all are more or less opposed to it, even those who finally submit to its employment. Really, it is not to be wondered at, that a modest, delicate woman should feel unwilling to submit her person to such a revolting exposure; and the writer candidly owns that he has never yet applied the speculum, or even examined by the toucher, without being more or less abashed and disconcerted, by reason of the exposure the operation necessarily imposes on females. Even the ordinary modes of investigation by question and answer, often greatly shock a modest female, and in a degree, in some instances, embarrass the diagnosis of her diseases.

When organic disease of the uterus exists, and the rational symptoms fail in furnishing the requisite amount of information necessary to form a satisfactory diagnosis, nearly every intelligent woman will consent to a physical examination, if made sensible of the necessity for it, especially if the proposition to do so is delicately presented; and such being the case, it is the duty of the physician, as far as is

consistent with safety, to save his female patients all needless shock of feeling from delicate questions or personal exposure.

Entertaining such views of this delicate subject, the writer some ten years since directed his attention to the investigation of organic diseases of the uterus, guided by the toucher, chiefly; and after repeated trials, affording ample experience, he unhesitatingly states that the information it furnishes is far more reliable and satisfactory than that derived from any form of speculum, in determining as to the existence and nature of such diseases. In numerous instances, during the time above stated, he has tested the correctness of his diagnosis in uterine diseases guided by the taxis. Most of the examples presented ulceration of the os, but in many cases the cervix was also implicated more or less extensively. Ten of them exhibited the os patulous, exceeding in size a Spanish dollar, and deeply ulcerated, the cervix indurated considerably beyond the interior boundary of the corresponding border of the ulcer, and the general health greatly impaired.

After carefully examining into the condition of the os and cervix uteri by the toucher, he was enabled to detect ulceration with great certainty, as well as induration, engorgement, and all of the deviations of position.

An ulcerated os uteri presents to the experienced touch the same feel as an ulcer on the exterior of the body; and an accompanying induration of the surrounding parts is a very common attendant of such ulceration, as it is also of many external ulcers. Induration of the cervix, however, is decidedly more apt to accompany intra-cervical ulceration; and as it is uniformly met with in such ulceration of the cervix, clearly ascertained to exist, as well as frequently in ulceration of the os likewise, it may safely be inferred that it represents ulceration in all those cases in which the cervix is inaccessible to the touch, when indurated, without ulceration of the os.

In deciding as to the existence of induration of the os or

cervix uteri, the speculum is absolutely useless. Even in ulceration, the information it imparts is unsatisfactory and unreliable. In engorgement and inflammation, it furnishes no information that is not derivable from the toucher, elucidative of those conditions, and is far more offensive to the feelings of a delicate woman than the investigation by the taxis.

The discharge, said to be characteristic of, and peculiar to ulceration of the os and cervix, is not by any means constant in appearance, nor does it furnish conclusive evidence in all cases that ulceration does exist when met with. If present, and just issuing from the os uteri, either in its semifluid or ropy condition, the speculum, if then applied, would only prove that the morbid secretion unequivocally proceeded from the os uteri. The discharge of this diseased product externally, however, affords as satisfactory evidence of the existence of ulceration of the os uteri, as if actually seen escaping from the uterine cavity, because its characters are sufficiently marked to remove all doubt of its identity.

Although furnishing pretty satisfactory evidence of the existence of organic diseases of the uterus, of itself, the revelations of the toucher should invariably be taken in connection with the other symptoms usually met with in such diseases, in forming a diagnosis. The ulcerated os and cervix, when accessible to the touch; the induration; the peculiar discharge; pelvic and dorsal pains; inability to stand long at a time; frequently, abdominal pains; disordered digestion; nervousness; depression of spirits, and the peculiar desponding expression of countenance termed "facies uterine," when taken together, leave little room to doubt as to the existence of ulceration of the os and cervix uteri.

The speculum will be demanded in those cases in which the os uteri cannot be reached by the finger, as then no other reliable plan could be adopted for exploring and treating such examples. Fortunately, these latter instances are rarely to be met with, as the writer has only witnessed two

out of over a hundred cases treated by him in ten years. It will also be required in scirrhus uteri, when the indurated cervix is to be excised; and when adhesions between the os or cervix and vagina exist. And it will be indispensable in cauterizing the uterus with the incandescent iron, and in leeching or scarifying the organ.

For the purpose of cauterizing the os and cervix, the writer employs the nitrate of silver, and the acid nitrate of mercury, conveyed to the parts, concealed by a canula directed by the index finger of the right hand; and the operation should be repeated once in three or four days, or after longer intervals, if the previous operation is followed by prolonged bleeding, until the cure is perfected. The nitrate of silver is best adapted to the mild or slight examples of ulceration; while the acid nitrate of mercury should be used when the ulcers are deep and extensive, and especially if the cervix is decidedly implicated. It is best, however, to begin the treatment with the nitrate of silver; and if amelioration seems tardy, then to employ the acid nitrate of mercury in alternation with the caustic silver.

The position most convenient to the operator for examination, as well as for the application of remedies, is on the left side, with the thighs flexed on the trunk, and the legs on the thighs. The person should invariably be covered, and the nates placed near the border of a bed. In this posture, the parts can generally be reached and examined with the index finger of the right hand with entire convenience; and it is also the best for the application of the speculum, as well as the cauterizing agents employed through it.

The first trials, in the use of the caustic, upon the plan advocated in this paper, will, in all probability, be attended with some difficulty; but gentle efforts, repeated again and again deliberately, will soon impart the requisite dexterity of manipulation to insure success; and, after learning how to apply the remedy, the ease with which it can be done will astonish both patient and physician.

A crayon formed of the nitrate of silver, or the stick itself

may be used, applied as already intimated; and, for the application of the acid nitrate of mercury, a short, full camel's-hair brush, or mop, saturated with the undiluted solution, answers best. The canula should be fully ten inches in length, of proper calibre to contain the crayon, or mop, and open at both ends, so as to allow the handle of the crayon to project sufficiently beyond the free, or outer extremity, so as to be held and wielded by the operator's left hand; and it may be formed of silver or glass; the latter material the writer employs, and decidedly prefers.

To guard against vaginal irritation, from accidental diffusion of either of the caustics over its surface, after being applied to the uterus, a weak solution of common salt should invariably be injected into the vagina immediately after any cauterization—using for the purpose a female glass syringe—taking care at the same time that this saline solution is effectually applied to the upper portion of the passage immediately around the cervix uteri. After this the vagina may be abluted daily with simple water, or mucilaginous infusions, such as slippery elm or flax-seed teas, applied tepid or cool, as may be preferred by females. The saline wash may also be used tepid or cool, according to the fancy of different patients.

The bowels should be kept in a soluble, easy condition, using for the purpose, when necessary, mild aperients, especially gentle aloetic preparations. When induration of the cervix exists, and if the habit is anemic, the iodide of iron will be proper. If anæmia, without induration is present, and more especially should there be nervous debility, and marked depression of spirits, frequently tending to deep despondency, the phosphate of iron will be indicated. It will sometimes be necessary to resort to vegetable tonics in these cases; and in many instances nothing answers better than good porter. The cold infusion of wild cherry bark (prun. virgin.) will very often supercede all other vegetable tonics; and the cases most likely to be benefited by it, are those attended with undue nervousness, as well as debility.

When the liver is torpid, and the bowels refuse to respond to the action of aperients, the nitro-muriatic acid mixture will be found signally beneficial. The diet should invariably be simple, and moderately nutritious.

It will greatly promote recovery, to require patients to remain in bed, or in a recumbent posture during treatment; and for months after recovery, every species of traveling will be hurtful. The utmost care should be taken to guard patients against exposure to variable temperature. Catarrhal disturbances invariably aggravate uterine diseases of every kind, and in none do they prove more hurtful than in ulceration and induration of the os and cervix.

ART. IV.—*A Case of Dysentery, complicated with Parotitis.* Reported by G. G. MINOR, M. D., New Kent County, Va.

W. L. T ——, aged 12 years. August 4th, 1857, 10 o'clock, A. M. hour of visit; sick four days; pain in bottom of the belly; patient weak and prostrate; skin cool; tongue furred, and rather dry; frequent mucous evacuations; no appetite; respiration slow; pulse quick and feeble; urine scanty and high colored; sleep disturbed. Treated case as sporadic dysentery. Tinct. opii. gtts. xx; warm fomentation to abdomen; hot application to feet; mint julep.

6 o'clock, P. M.—Not so prostrate; skin warm; under influence of the opium; one copious mucous evacuation from bowels; respiration not so slow; pulse stronger; urine freer; Cal. grs. vj; Dover's powder, grs. xii. Make three powders; and give one every four hours.

5th, 9 o'clock, A. M.—Feeble; tongue furred; skin warm; four mucous evacuations, with termina and tenesmus; respiration slow; pulse 110, feeble. Bi-tart. potass, grs. x, every 3 hours.

6 P. M.—Three mucous evacuations. Cal. grs. vj; Dover's powder, grs. xviij. Make 3 powders, and take 1 every 4 hours.

6th, 10 o'clock, A. M.—Four mucous and bloody evacuations; slept some during the night. Bi-tart. potass, grs. x, every 3 hours; enema of starch and laudanum.

6 P. M.—Four mucous evacuations. Cal. grs. vj; Dover's powder, grs. xij. Make 3 powders, and give 1 every 3 hours.

7th, 9 o'clock, A. M.—Seventh day of illness; weaker; skin cool; drowsy; 7 mucous and bloody evacuations; respiration slow; pulse feeble and quick; some sleep. Enema of starch and laudanum; milk toddy; bland food.

6 P. M.—Prostrate; tongue furred and dry; skin cool; drowsy; 5 mucous evacuations; some food taken; perspiration and pulse same. Blister to abdomen; mint julep; boiled milk.

8th, 8 A. M.—Weaker; 7 mucous evacuations; julep; milk toddy. After my visit Dr. T. S. Garnett, who was called in consultation, prescribed cal. gr. i; Dover's powder, gr. iii; acet. plumbi. grs. vi. Make 3 powders, and give 1 every 3 hours.

6 P. M.—Skin warmer; 5 mucous evacuations; rather improved in appearance; urine freer; cal., Dover's powder, and acet. plumb. as above; stimulants.

9th, 9½ A. M.—No improvement in condition. Acetat. plumbi, grs. iv, tinct. opii, gtts. vi, every four hours; acetate of lead and laudanum in injection; small bits of ice in the mouth.

6½ P. M.—Tongue dark and dry; skin warm; intellect clear; nausea; frequent mucous, offensive evacuations; respiration slow; pulse feeble and quick. Same treatment.

10th, 9 A. M.—Same condition as yesterday, except pulse feebler and skin cooler. Argenti nitrat. gr. $\frac{1}{3}$, pul. opii, gr. $\frac{1}{3}$, in pill, every three hours; mint julep.

7 P. M.—Condition slightly improved. Continue nitrate of silver; opium; ice.

11th, 9 A. M.—Skin warm; frequent dark, mucous evacuations, not so offensive; pulse feeble; respiration slow; urine free; some sleep.

12th, 9 A. M.—Very feeble; tongue dark, but cleaner; skin warm; intellect clear; frequent dark, mucous evacuations, approaching fœcal; urine free and natural. Mild diet; ice. Tinct. opii. or paregoric, p. r. n.

13th, 9 A. M.—13th day of illness; tongue cleaner; skin natural; 3 evacuations in 24 hours, dark and somewhat fecal. Nourishing diet; mint julep; ice.

14th.—Symptoms much the same as yesterday; increase of strength, diet, &c.

15th.—Swelling of left parotid gland like mumps (but he had had mumps); other symptoms same as yesterday; bland, nourishing diet; liniment of spirits of camphor; tinct. opii, ol. oliv. to gland; deglutition impeded.

16th.—Swelling of both parotids; deglutition impossible.

Died on morning of 17th.

This case is noted as *sporadic dysentery*, when from the symptoms it might have been termed epidemic or malignant. The type of cases of the disease, as at that time prevailing, was mild. This case was severe, perhaps from neglect during the first four days of its invasion. It is worthy of remark, that calomel with opiates, bi-tart. potass, acetate of lead and nitrate of silver, were successively administered. Improvement was manifested only after the use of the nitrate of silver.

The striking feature of the case is the swelling of the parotids, which caused death on the commencement of convalescence from dysentery.

Such a complication has never occurred to me before, either in practice or reading.

TRANSLATIONS AND SELECTIONS.

I. *An Experimental Enquiry on Endocarditis, by the Synthetical Method.* By BENJAMIN W. RICHARDSON, M. D., L. R. C. P., Physician to the Royal Infirmary for Diseases of the Chest, and Lecturer on Physiology at the Grosvenor Place School of Medicine.

As the eye of the reader falls on the first lines of this paper, I beg him to receive the assurance that the paper is not written to represent any special theory in pathology; but to record certain experimental results, and to indicate a new way to the discovery of facts as yet hidden in the phenomena of disease. Farther, I would pray that any reasonings which may be offered on the experimental evidence may be considered as apart from the evidence. For the evidence belongs to the present—*it is;* the argument belongs to the potential—*it may be.*

The method of studying disease which this paper is intended to illustrate, belongs exclusively to modern science, in so far as medicine is concerned. It has as yet been confined to the labors of a few enquirers, and has received, I believe, no systematic exposition as a general plan, from any one in medicine, except myself. The method consists in inducing, by experimental means, the phenomena of special diseases. The method may be called the "synthetical method" of studying disease.

It is remarkable as an historical fact, that no science, save medicine, has been content to rest on analysis as its only foundation; yet is there no fact more obvious. If the question be asked, Why is not the knowledge of disease positive in its character like other scientific knowledge?—there is a ready answer; that, as compared with other sciences, the science of medicine proper, has always stood on one leg, while the other sciences have walked on two; I mean on analysis and synthesis.

As a philosophical process, I would accord to analysis the greatest importance; it gives finality to fact; but in the first stages of an enquiry into a series of unknown phenomena, I look on synthesis as the co-equal with analysis, in the progress of discovery. Synthesis suggests and produces facts, which at once suggest and produce new modes of analysis,

and which, later in the day, support analytical results. Synthesis is essentially inventive as a process, and if it never leads to pure demonstration, it sometimes supplies evidence so closely bordering on the demonstrative, that analysis has little left to perform in the way of completion. All disease is natural synthesis.

I have shown, in another place, to what a grand extent the synthetical process might be applied in the study of various classes of diseases.* I shall not open this abstract question now, for it were out of place such proceeding; but I beg the reader while observing the second and immediate intention of this paper, to receive the paper altogether as a representation of a general scheme of research.

The special subject of this paper is, the disease endocarditis and its artificial production. Let us observe first, the simple facts of an induced endocarditis.

It is the fact then, that endocarditis can be experimentally produced in an inferior animal: the fact I shall endeavor to demonstrate further on.

The mode of producing this condition consists in the introduction into the circulation of an acid.

The only acid capable of producing this effect, so far as present researches teach, is the lactic acid.

The acid is best introduced by the peritoneum into the bodies of the animals subjected to experiment. This mode of introduction has the following advantages:

1. The operation is easy to perform and almost painless.
2. The acid solution, if the animal is deprived of fluids for some hours before and after the operation, is absorbed readily from the peritoneum.
3. The fluid being taken into circulation, with the acid largely diluted, the effects produced are comparatively slow, and are so defined, that the symptoms set up can be watched from day to day.
4. The operation is attended with no immediate danger as an operation, and it can be repeated many times on the same subject.

In my experience, extending now to sixteen experiments, the production of endocarditis has failed in no one instance.

The effect of the acid in producing endocardial inflammation is well marked in carnivorous animals, as dogs and cats, and I have recently tried it on a rabbit with the same result.

As I have already published† the details of the first ex-

* On the investigation of epidemics by experiment. Edinburgh Veterinary Review, vol. i, No. 2, 1858.

† Essay on the coagulation of the blood. Appendix. London, 1848.

periments for the production of endocarditis, I need not repeat those details here: it will be better to give the summary of the results of all the experiments.

When an ounce of solution of lactic acid, containing ten per cent. of the acid itself, is introduced into the peritoneal cavity of an animal, I refer more especially to the dog, no symptom is peculiarly manifested for the first six or eight hours, except one, viz: rapid action of the heart. True, the animal, if he has recently been fed, may vomit immediately after the operation, but this may be avoided by suppressing food and drink for a few hours beforehand.

After six hours, symptoms of a general kind occur; the acid having ordinarily disappeared from the peritoneum long before that period; the animal is now feverish, the skin is hot, and there is thirst; he has occasional shiverings, slight in degree, and he seems languid and cross. If the muscles are grasped, there is often evident and angry expression of pain.

The prominent signs of heart affection usually appear about twelve hours after the injection; the breathing is hurried; there is also a short dry cough, and decided uneasiness in the chest; the action of the heart continues to be rapid, and is now irregular and bounding. If the animal is at this point of the experiment freely purged, or if he passes a large quantity of urine, the symptoms all subside, and renewal of the injection is necessary, in order to sustain the effect. The effects continuing, either from the first, or after the repetition of the operation, the sounds of the heart become modified, and the modifications run as follow:

1st. The abnormal condition is confined in the primary stage to the *right* side; gradually it extends to the left, but the right catches it first; a result which, from the conformation of the chest, is easily traced out in the dog.

The kind of modification of sounds is invariably the same; it consists in a gradual disappearance of the first sound, and in the production of a peculiar sharp or accented second sound. I have observed this state extending over twenty-four hours, and, in one instance, over two days, during the whole of which period, there could only be distinguished one sound, and that the second. In time, however, this peculiarity passes away, and in place of a first normal sound, a gentle and musical purr obtains, which ultimately becomes a loud and peculiarly well-marked systolic bruit. This sound established, it is comparatively permanent. If the animal does not die from the acuteness of the attack, the murmur remains for weeks. In one instance, it was well marked in

a dog for five weeks, the animal in the mean time having recovered his health, as it seemed, completely.

In one instance, these endocardial symptoms were accompanied with well-marked pain in the joints and limbs; this pain crippled the animal, and it was curious to observe that the pain was rarely for a day at a time in the same limb. Sometimes the animal limped with one hinder limb; in a few hours he would be using that limb freely, but would not trust a fore limb to the ground, and so on, but this case was exceptional. The joints in this instance were found normal after death, but the death was not produced until many weeks after the acute symptoms had passed away.

Such are the symptoms produced by the use of the acid poison. I would now beg special attention to the pathology which attends these symptoms in their several stages. For the sake of connecting pathology with symptom, I would divide the symptom, keeping purely to those which are endocardial, into four stages.

(*a*). The stage when the action of the heart is simply excited, the sounds being normal.

(*b*). The stage when the first sound is lost, and the second accented.

(*c*). The stage when the first sound is replaced by the faint purr.

(*d*). The stage when there is marked and sustained systolic bruit.

If the animal be killed, or if it die during the first of these stages (*a*), the valves, whether auriculo-ventricular or semilunar, are free and not thickened, but the endocardial surface throughout is of a brilliant vermilion color. Even the pale margins or flaps of the valves have a pinkish hue; there is also over the membrane throughout, a villous or velvety appearance, and beads are abundant. The pathological signs of this stage often come on in an extraordinarily brief period after the injection; as soon, in fact, as the injected fluid finds its way through the heart, the injection of the endocardial surface is developed. In the first well-marked illustration of this stage, the pathological indications were brought out in a period of six hours. But I have since performed three experiments, in one of which the fluid injected into the peritoneum was absorbed within an hour, and the injection of the endocardial surface was well pourtrayed. In the other experiments, one on a rabbit, the other on a cat, the same events occurred in two hours.

In the second stage (*b*), when the first sound is lost, the mischief, on whichever side it may be, is confined to the

auriculo-ventricular valves. The whole structure of the valve is thickened and 'œdematous.' I have seen the segments of the tricuspid valve fixed in this swollen condition, resembling each an injected uvula, and lying so close to each other, that when the heart was contracting, they must have cushioned against each other, thus fulfilling their office of preventing regurgitation, passively, i. e., without tension or movement. In this œdematous stage, if the valve be pricked with a needle, a clear white lymphy fluid exudes, and by frequent pricking, the valve structure emptied of its effusion, collapses and assumes a flaccid condition.

In the third stage (*c*), the valves remained thickened, but the red color and œdematous state were both reduced. Beneath the endocardial surface of the valve, there is a paleness as from coagulated effused lymph. If the needle is applied now, there is no exudation; the valve has some limited play, unless it is bound down by adhesion, and its structure is firm. Beads, which generally fringe the margin of the valves all around, from being œdematous prominences in the earlier stages, are pearly looking and are moderately firm.

In the fourth stage (*d*), when the systolic murmur is purely marked, the valves have shrunken, and have regained imperfect play, but are still thickened and unyielding. Beads which may be present are extraordinarily firm, their presence adding not a little to the loudness and musical character of the systolic murmur.

I have confined my description so far to the changes which are produced in the tricuspid or mitral valves. The disease, in a word, is mainly confined to one or both of these structures. A very slight thickening, not sufficient at any time to interfere seriously with their duties, is all I have ever observed in the semilunar valves of either side.

The simple facts connected with the production of artificial endocarditis having been thus demonstrated, we may turn with advantage to the consideration of certain questions suggested by the facts themselves—questions which all may reason upon from the facts, and by the discussion of which the ultimate practical meaning of the experimental results may be elicited.

The experiments have a bearing of great interest in relation to the physiology of the sounds of the heart.—In every instance where the first sound was lost, and inspection of the heart was made during that stage, four instances, the auriculo-ventricular valves were so modified that their tension was clearly impossible.

In every instance where the systolic murmur was estab-

lished, the same valves were implicated, but in a different way; i. e. they were found restored partly to their action, but indurated in structure.

In every case throughout the whole series the second sound was always distinct; in no case, at any stage, were the semilunar valves so implicated as to lead to the inference that their action was impaired.

Better than any physiological physical enquiry, these results prove to my mind that the systolic sound is due to tension of the auriculo-ventricular valves, and the second sound to tension of the semilunars. What can be more conclusive? Two animals are well—they have two sounds to their hearts, and two sets of valves in alternate play; the animals are made ill by experiment, and the first of these sounds is entirely lost; you listen to the heart for hours, and there is the one solitary tick; it is listening to a clock; you destroy, and cut down to the heart of one of these animals in this stage, and you find the ventricular valves inactive; you let the second animal have longer respite, and the first and lost sound returns, but modified as a murmur. You kill and cut down to the heart of the second animal, and you find the ventricular valve in a position to act, it is true, but devoid of flexibility, incapable of tension, and as it were fitted up for the production of murmur by the blood stream.

The production of symptoms so specific by the simple act of introducing an acid into the circulation is another point of interest. In commenting on this fact of production, I have carefully avoided on all occasions from connecting it too closely with any theory of disease occurring spontaneously in the human subject. That the fact is full of meaning in relation to the disease, endocarditis, in the human subject, is undeniable; and I feel safe (while faintly tracing out such relationship) in offering the following propositions:

1. That lactic acid present in the blood, will produce endocarditis.

2. That lactic acid could not exist in the blood without producing endocarditic mischief.

A question has been asked me many times, viz: whether other acids than lactic introduced into the circulation in the same way would not produce the same effects? From the composition and from the influence exerted on blood by certain other acids, viz: acetic, formic and citric, I inferred that a similar influence on the heart to that produced by the lactic was at least probable; and I shall notice presently something positive on this point. But before so

doing, I would impress strongly the argument that, although half a dozen analogous substances having the properties of acids, should produce the analogous symptoms and pathology when introduced into the body (by virtue of the same law as makes them exert analogous chemical results out of the body), such occurrence would not, as has been superficially assumed, reduce the value of the experimental evidence already collected in its bearings on disease.

Let the reasoner, for the moment, forget all old analytical speculations regarding the origin of diseases in which endocarditis is a symptom. Let him then take up as a new and simple proposition, any day provable by experiment, that endocarditis may be artificially produced by introduction into the body of one of a limited series of analogous compounds. Let him after this return to his analytical mode of research, and if in that manner he should find present in the human body, in a case of endocarditis which did not produce disease, one of the very agents by the use of which he had been enabled to elicit the same disease by synthesis, then I contend that such observer has arrived as near to a specific cause as he can arrive by any experiment whatever.

The connection then of an acid poison in the body, with endocarditis as a result, in cases of rheumatic endocarditis, seems to stand as follows:

Synthesis entirely and as completely as synthesis is capable, supports the connection. The synthesis is positive and demonstrative.

The analysis is corroborative, but has not yet advanced beyond theory. In acute rheumatism analysis has only found an acid poison of the producing series in the excreta. It is absurd certainly to assume that ounces of an acid of the producing series, thrown off from the skin of a sick man, should not be derived from his blood; and I shall be able to show that one reason of such acid poison not having been found in the blood of the rheumatic man is, that it has never been sought after in the right place. But I will not wait to support theory; it is most sound to state the pure fact that analytical demonstration of a producing poison in the blood is not yet supplied.

But what of the other acids; on this point I have one valuable experiment. As ascetic is nearest in its approach to lactic acid, I have performed with every possible care the experiment of introducing this acid into the circulation. The acid so introduced, produces many of the general symptoms caused by the lactic, and some disturbance of the heart. But the specific cardiac symptoms are wanting.

Returning to the simple teachings of the experiments, there are certain local peculiarities of great importance, to which allusion must be made.

It is remarkable, that when the inner surface of the heart is affected by the acid poison, the mischief is mainly confined to the auriculo-ventricular valves. The semilunar valves escape as a general rule. In like manner, the lining coats of the blood vessels do not seem to suffer any more than in rheumatic endocarditis. From this, one can but infer, that some certain histological peculiarity, as yet not understood, acts in unison with the peculiar poison to produce the lesion of the ventricular valves; and that some certain histological peculiarity, not as yet understood, tends to the protection of the aortic valves and lining coat of the vessels. This observation, small enough indeed in its individual meaning, assumes a much wider form, when it is considered with the local origin of diseases generally. It bases in fact this proposition, long previously theoretically conceived and admitted, but not so definitely proved. *That a special poison, present in the blood and bathing all tissues, may have its influence, as a disease-producing agent, localized in one structure or organ.*

In the course of my description of the symptoms and morbid anatomy in the cases of endocarditis induced by experiment, I dwelt specially on the circumstance, that in these instances the disease was primarily manifested on the right side of the heart. At first sight, this occurrence is an anomaly, when compared with ordinary endocarditis, and hastily glanced at, would serve to break the idea of relationship between induced and spontaneous endocardial inflammation. But a little reflection dispels these hasty inferences, and offers not merely a proof of relationship, but an explanation absolutely of the known fact, that in spontaneous endocarditis, the left side of the heart is the common seat of the disorder.

The cause of the difference in the two classes of cases, I mean the induced and the spontaneous, seems then to be simply this. In the cases of induced endocarditis, the poison introduced into the body by an absorbing surface finds its way into the circulation by the venous blood. It follows, that as the poison traverses the circulatory canals, it comes in contact with the inner surface of the right side of the heart first: in the pulmonic circuit it undergoes some loss, and so entering the left cavity is less active in its effects. In other words, the poison in these instances, in so far as the heart is concerned, is derived from the systemic circuit, and is lost in part in the pulmonic circuit.

On the other hand, in rheumatic endocarditis the evidence all points to the supposition that the poison is a product of respiration. Hence, as the poison traverses the circulatory canals, it comes in contact, first, with the inner surface of the left side of the heart; while, in the systemic circuit, it undergoes loss or combination, so that the blood returning by the veins is not poisoned, and the right side of the heart escapes.

Reversing the previous proposition, the poison in these cases, in so far as the heart is concerned, has a pulmonic origin, and a systemic destruction.

The further inference from this argument also is, that the action of the producing poison, both in the artificial and the spontaneous endocarditis, is directly on the part affected; i. e. by contact with the endocardial surface. Let us examine this question from another point of view.

Seeing that a certain series of changes are produced in the endocardial membrane when the necessary condition, viz: a producing poison, is present: our reason admits of but two modes by which the changes induced could originate. Either the poison has been carried into the affected part through the nutritive vessel or vessels of the part, and thus has produced its effect, *a tergo*, by interference with nutrition; or it has been applied to the free surface of the part, and has produced its effect by direct contact, like a blister applied to the skin. Many poisons have the privilege of producing their effects by both methods; but in reference to lactic acid and endocarditis, and in reference to an assumed rheumatic poison and endocarditis, there is no alternative but to accept that the action of the poison is by direct contact with the free surface.

For the position of the question is this: that in the artificial endocarditis the right side of the heart is first affected; in the rheumatic endocarditis the left side is primarily, and by a general rule which has but rare exceptions, singly affected. Now, it is clear that, if the effect of the poison in these cases, one or other, were *a tergo*, i. e. by introduction to the endocardial surface through the nutritive vessel, the two sides of the heart would share equally in the catastrophe, inasmuch as they are both fed from a common source and the same blood. But if the action of the poison is by direct contact of the poison with the free surface of the membrane, the occurrence of endocarditis in the induced cases on the right side, and in the spontaneous cases on the left side, is easily and satisfactorily accounted for.

The observations here made lead me to recur for a mo-

ment to a remark already offered relative to the methods which have been pursued by those chemists who have searched for an acid condition of blood in rheumatic cases. As far as I can discover, every enquiry in this direction has been made on venous blood. But it is obvious, if the foregoing arguments are correct, that the venous blood is never charged with the free poison. The poison being disposed of in the systemic circuit by elimination and combination, can only be present in *arterial* blood, whither the chemist should turn for evidence.

The experiments which I have had the good fortune to institute, for the production of endocardial inflammation, have enabled me in a measure to trace out some of the changes which result in the foundation of organic cardiac disease. The reader will, I trust, pardon me while I briefly offer a note on this subject.

In artificial endocarditis the first morbid sign is simple vascularity of surface; the second, effusion of lymph into the subserous tissue; the third, coagulation of the effused fluid; and the fourth, either absorption of the effused matter, or the nutrition of this matter and its transformation into new and abnormal structure. Thus the ordinary sequences of the inflammatory process are the same in endocarditis as in other inflammatory types.

On the pathology of ordinary endocarditis much discussion has at various times arisen respecting the origin of the bead formations so often met with, after fatal cases, fringing the margins of the valves. Some have argued that these beads are the result of exudation—others, that they are simple deposits from the blood. Some years ago I was inclined to the deposition theory. I take the present opportunity, from positive knowledge, of retracting this view. Tracing the formation of the bead step by step in these later enquiries, I have demonstrative proof that the bead originates in an exudation beneath the endocardial surface.

But, although the bead has this unquestionable origin, it is, I believe, often the basis of a secondary deposit from the blood. I have explained that in the œdematous stage of endocardial inflammation, the swollen surface gives out on puncture or slight pressure a plastic fluid. In endocardial inflammation the exuded matter sometimes finds its way to the free surface; and once exuded in this manner, it may, and probably does, form a favoring point for the direct deposition of fibrine from the blood. The advocates of the exudation theory and those of the deposition theory may

therefore, in the main, be both right; but the former have the priority in the argument.

The last point on which I would rest, relates to the connections which may be presumed to exist between a free acid in the blood and the fibrine of the blood. As the blood is always alkaline in health, as the solution of fibrine is clearly due to the presence of alkali, and as the fibrinous deposition is common in acute rheumatism, the theory has been most ingeniously and ably propounded by Dr. Fuller, that the deposition in rheumatic fever is due to neutralization of the alkaline solvent of the blood. Consonant with this view, I had expected to find that in my experiments of introducing lactic acid into the blood, I should insure free fibrinous deposition. Remarkably enough, in every instance, the reverse obtained; the blood in these cases was only feebly coagulated and rarely showed sign of free separation of fibrine. The explanation of this apparent contradiction could only be sought for by experiment with the acid, on blood itself. So going to the experiment, I found at once, that lactic acid, although it will but feebly dissolve condensed fibrine, has the same effect as a fixed alkali when added to blood newly drawn. The same power of holding blood fluid is possessed by the acetic and citric acids.

We cannot, therefore, in observing the tendency to fibrinous deposition, retain the impression that the tendency to fibrinous deposition in rheumatism is due to neutralization of the true blood solvent, seeing that the assumed neutralizing agent is itself a fixed solvent of the blood; but we must take, rather, the two occurrences of an acid poison and an increase of fibrine as connected with a common cause and as coincidental phenomena.

In a few concluding sentences, I will put forward what seems nearest to the truth in reference to spontaneous rheumatic endocarditis and its cause.

1. The evidence, both analytical and synthetical, goes to prove that the disease is due to the presence of an acid poison having the properties of lactic acid—but the evidence stops short, as yet, of absolute demonstration in the analytical part.

2. The synthetical evidence brings to the verge of demonstration the supposition that the action of the poison which produced the disease is direct on the free surface of the endocardial membrane; that the poison acts, in a word, after the manner of a local irritant.

3. The evidence, analytical as well as synthetical, points

to the conclusion, that the producing poison of spontaneous endocarditis is formed in the pulmonic circuit, and is destroyed in the systemic.

4. The results of endocardial inflammation are the same in order as in inflammation of other structures; and that the bead formation is due to exudation.

5. A poison circulating in the blood and bathing all the tissues, may elect one tissue for its specific manifestation of effects as a poison.

6. While the presence of a specific acid poison in the blood will account for the specific disorder endocarditis, the other and attendant events in the rheumatic attack are to be sought for in a more general originating cause. Further back, toward such origin, I dare not attempt to penetrate on this occasion. In such direction, new and laborious experimental research is required, bearing on the one fundamental question, the oxygenation of animal bodies in health and disease.

II.—*A Grain of Wheat from a Bushel of Chaff.*

From that eventful morning when the infant Cain, playing at his mother's knee, proclaimed by "raising his voice in tuneful song" an important discovery by the simple experiment of bringing his little nose in violent contact with the ground, to the day when Pat Terrifer, with his nether limb mashed beyond all hopes of redemption, lay meditating on his narrow hospital-pallet upon the dubious means of relief promised him by the attending surgeon, there has been a steady but unequal contest by man against the curse imposed upon him for the first fault—a constant endeavor to strike the word "pain" from the vocabulary.

And yet, although ages have rolled on, and millions upon millions have lived, pondered, experimented, and suffered, so meagre was the result, that even so late as 1839 the celebrated French surgeon Velpeau, despairing of any solution to the problem, declared that "to escape pain is a chimera which we are not permitted to look for in our day; that the cutting instrument and pain in operative medicine are two words which never present themselves the one without the other." And yet he has lived to see his opinion changed. Only seven years after, as one of a commission appointed to examine the merits of a new means of relief proposed, he

heard and acquiesced in the glad announcement made to the whole world, "We have conquered pain."

How was this glorious victory gained? Who won it? Was it a mere spontaneous, suddenly-imagined suggestion which luckily found a corroborative solution at once in experiment? Or was it a result from a series of trials and failures—a fact settled by a slow process of reasoning on a certain amount of given information?

Such are the questions often proposed—let us see if all of them can be answered satisfactorily. One, certainly the last, can be at once replied to affirmatively, for the facts to prove it are sufficiently numerous and well substantiated to satisfy even the most obdurate Mr. Gradgrind. Our object must be therefore to see at what period the first attempts were made to relieve pain, and in what they consisted.

Throwing aside, as doubtful, the story of the sleepy action of the nepenthe upon Ulysses and his companions; disputing with the biblical commentators the theory that narcotics were given to the unfortunates about to be crucified; disbelieving entirely the assertion of Herodotus that a narcotic intoxication was common in his day; we reach at last a tangible fact and fixed date.

A worthy gentleman of Naples, by the name of Pliny, who, it is known, was living in the first years of our era, has written us a letter in most excellent Latin, in which he declares that it was the custom to give a certain decoction of herbs "before cuttings and puncturings, lest they should be felt." One would suppose this so satisfactory, that no doubt could be harbored as regards his integrity. But apparently not satisfied with the probable effect of so simple an assertion, he instantly proceeds to perpetrate a most abominable Munchausenism about a stone which he calls "memphites," declaring that it will produce the same effect. But even this admits of some explanation, for, as by his direction, it was necessary to apply it in order to stupefy the part, it is highly probable it was to be used as Mr. Montgomery intended to use his brick. That omnipresent race, however, the Chinese, who seem inclined to cheat us out of all claim to priority of invention, have taken issue with all the rest of the world, by declaring that from the remotest ages it has been the custom of their medical men to give patients a narcotic powder, so that no pain need be felt. In a curious book in the imperial library at Paris, called Kou-kin-i-tong, we find the name "ma-yo" given to this powder, which was probably no more than the Indian hemp now so extensively used throughout the east, under the name of

"bhang," to produce a temporary intoxication, and the same drug which in the form of an extract is the bane of the hasheesh-eater.

Constantly through the years succeeding the death of Pliny, from Dioscorides, from Matthiolus, from the spirited narrative of Marco Polo, and all the chroniclers of the crusades, from the old historians of the east, from the records of the inquisition, and the published cases of the long series of illustrious surgeons down to this very year, we find mention made of attempts to relieve pain, while equally often proof is given of their inefficiency and failure.

The reason of this is obvious: with few exceptions, their experiments were directed toward the effects of solid narcotic substances upon the system. It was the substances used, and not the method, which caused the failures. Opium, which is one and perhaps the best of all narcotics, if given in sufficient amount to wholly deaden pain (which can be done), possesses the most disagreeable property of deadening the recipient so utterly, that he rises no more in this world in a bodily form; consequently the user is always placed in the disagreeable dilemma of inflicting a certain amount of pain and keeping on the safe side, or of risking a coroner's inquest and a verdict of manslaughter and malpractice. The trials, however, demonstrated one valuable fact, that as when swallowed they produced slowly a much more continued and excessive stupefaction than was needed, it was important to substitute some article which should produce the effect more quickly—more safely, even if it were used a little carelessly; and above all, one which should not cause a persistent condition when the administration had been stopped.

This was the first step toward our present state of knowledge. When the men of science had arrived at this conclusion, they all fell to experimenting and suggesting year after year. Old Baptista Porta proposed what he called his sleeping-apple, 'the smelling of which binds the eyes with a deepe sleepe,' which was a ball formed of some narcotic drugs, that was to be kept from the air, and when wanted for use, was to be held under the nose. Cold was another means, as it was found that when a man was nearly frozen to death, his sensibility to pain was much blunted. Pressing upon the nerves until there was no sensation in the limb; choking and bleeding the patient until he was all but insensible, were other plans. Mesmer advanced the theory of animal magnetism, and made many converts; but whether before or after they were operated upon, has never been de-

cided. Finally, some ingenious man, whose name is wholly unknown to fame, suggested the use of alcohol—that is, the patient should be made so drunk that he could feel nothing. This being a pleasant form, met with much success, and was the second step onward. But still with this there were some faults. It was found that it required too long to produce the effect, that it was not caused equally in different persons, that it lasted too long, and lastly, that it was somewhat expensive and dangerous. So the wits of the chemists were set to work to devise something better than alcohol.

There is now existing near Naples, and records concerning it date back as far as Pliny, a cave called "Grotta del Cane," which is probably one of the outlets through the volcanic crust of which the whole vicinity of Vesuvius is composed, as from it constantly exhales a steam which is found to contain large quantities of carbonic acid gas. This gas, which is heavier than common air, is totally destructive to animal life, if sufficient time be given for its effects; and any animal placed in it will die, unless quickly removed from it into the pure air. Taking advantage of this known fact, it was proposed to administer in such quantity as to produce its insensible but not deadly effect, and that instantly on its appearance the administration should be suspended, and the operation be performed during the interval before perfect recovery.

This was the third step. But unfortunately its use was found to be too dangerous; and although it was advocated by intelligent men, and it was stated that some operations were performed under its influence, it fell into disfavor, and has never since been resuscitated. But it gave the right direction to investigation. In 1799 Humphrey Davy (not then Sir), who was an assistant in an institution in England for the treatment of disease by the inhalation of various substances, commenced a series of experiments with nitrous oxyd, or, as it is often called, laughing gas. These he published; and although he does not seem to have rendered himself by its use, at any time, wholly insensible, he must have caused some decided effect, for he has written, "As it appears capable of destroying physical pains, it may probably be used with advantage during surgical operations." This was the fourth important step.

But his was only a suggestion—a proposition which was never put by him to the test of experimentation: its death was coincident with its birth as far as any real benefit accrued from it to mankind. Nearly fifty years afterward, in the winter of 1844, a public lecture was given in the city of

Hartford to illustrate the effects of this very agent, the laughing gas. Among the audience was a person by the name of Horace Wells, who, struck by its effects upon one of the persons who had inhaled it, made the casual remark, "That he believed that a person (under its influence) could undergo a severe surgical operation without feeling any pain." He offered to inhale the gas himself and allow one of his teeth to be extracted. He did inhale it that very evening: a tooth was extracted, and, as he asserted, without the slightest sensation of pain. This was the fifth great step, the demonstration of an invaluable principle—in fact, the discovery.

A number of experiments were subsequently made with the gas both by himself and others, and as is shown by the affidavits of many good and reliable men, with an eminent degree of success; for many dangerous and ordinarily painful operations were performed upon persons who took oath they had experienced no pain whatever. But two objections were found with it: its preparation was somewhat troublesome, and it was rather too bulky for transportation. He accordingly searched for some other agent which should more fully and perfectly fill the needful indications. There was then sold in every druggist's shop an article of common use in medicine, the effects and method of managing of which had been perfectly well known for over five hundred years. This medicine was called an ether, the name of the chemical acid used in its manufacture being prefixed to it by way of designation. As there are many kinds of acids, there are consequently many kinds of ethers; of these the most common is sulphuric ether, sulphuric acid being used in its fabrication. It is a clear liquid, like water, highly volatile, intoxicating in effect, but in a much more rapid and excessive degree than alcohol. For over fifty years it had been recommended by medical men for inhalation in certain diseases of the lungs; and from individual cases where it had been used in this way, it was known that a certain amount of intoxicating effect would be produced. Reasoning on the fact which had been before experimented upon, that alcohol would produce a suspension of personal suffering, and the similarity of effect known to be caused by the inhalation of ether, Mr. Wells determined to try if it would supply the deficiency. This was the sixth, and the step which has left us at our present state of knowledge.

But although much was anticipated by him from the ether, he did not consider it wholly satisfactory, for he ultimately returned to the use of his first agent, the nitrous oxyd gas. During a visit made by him to Boston that same

winter, he communicated his discovery to an old friend and partner, named Morton. On the sixteenth day of October 1846 this same Morton made his appearance at the Massachusetts general hospital in Boston, and there, in the presence of a large number of surgeons and spectators, administered this ether to a man from whom was then removed a large tumor, without his having experienced the slightest pain. As from that day the surgeon has been able to gauge the amount of suffering he will inflict in any operation, as accurately as the corner grocer can weigh out a pound of sugar; as narcotics, for three thousand years the sole champions against inflicted pain, unconditionally vacated the arena on the approach of the new comer, it would seem the easiest thing in the world to tell the time of the discovery, and the name of the man who really conferred it.

Three men have stood before the world as claimants for the honor. Horace Wells for his acknowledged use of nitrous oxyd gas in 1844; William T. G. Morton upon the undisputed ground of his public exhibition in 1846; and lastly, Dr. Charles T. Jackson, who makes the positive personal assertions that he, in 1842, by the accident of inhaling an excessive amount of ether, made the discovery that it would produce a perfect insensibility, and that it was from his information, and at his instigation, that Morton performed the conclusive experiment at the hospital.

By priority of date, it is obvious that the credit should be awarded Dr. Jackson, provided it were perfectly proved, first, that he did discover in 1842 what he asserts, and, second, that he reduced what was at first but a theory to a certainty, by the test of actual experiment. But here is the dilemma. Nothing was heard of his discovery and claim, until subsequent to its verification by another, while out of his own mouth, it is proved that he never experimented upon what he considered so invaluable a discovery. Whether he induced another to experiment for him, is a simple question of veracity, in which the public have little interest; but as he kept his secret so well for four years, it is allowable to suppose that humanity might have been none the wiser at the end of forty.

Morton, who evidently considers the pen as mightier than the sword, and makes up by multiplicity of documents for weakness of proof, makes a direct denial that he ever received his information from Wells. Yet it is allowed that two years before his public appearance, he knew that Wells was experimenting with nitrous oxyd, and that he conversed with him concerning it. Some corroborative testimony is

evidently needed to show when he formed and experimented upon the theory. The claim of Horace Wells rests upon testimony showing, that from 1844 to 1846, he used both ether and nitrous oxyd gas to produce anæsthesia; upon testimony showing that he communicated his knowledge directly to Morton, and probably indirectly to Jackson. Could more be required to establish any demand? Should not this grain of truth, picked from the bushel of chaff with which the antagonism of others has enveloped it, be sufficient, under the benign influences of honest investigation, to produce a harvest of honor to the memory of that man, who died unnoticed and unrewarded, after bestowing one of the greatest blessings ever conferred on suffering man?

III.—*Some Account of the recent Experiments in Connection with the Case of M. Croux.* Reported to the Boston Society for Medical Improvement, and, by request, communicated for the Boston Medical and Surgical Journal. By J. B. Upham, M. D., Boston.

With the indulgence of the society, I propose to offer an abstract of my recent experiments made in connection with M. Groux. And I do this, not with the expectation or intention of presenting you now any absolute mathematically exact results, nor with the attempt to point out, thus prematurely, the conclusions that may follow from a knowledge of the facts already obtained. All this, I am aware, requires much mature deliberation, and a rigid comparison and weighing of all the circumstances of the case. It is my object, rather, merely to describe the nature of the experiments themselves, and the conditions under which they were made, and to put on record here, as it were, the main facts, dates and localities in reference to them and the approximate results. And it is my purpose, at a future day, to draw up fully and minutely such statements as will bear the test, I hope, of scientific analysis and investigation. To this end instruments are being constructed with a mechanism more perfect and delicate than any I have yet been able to obtain, and which shall exhibit and record with unquestionable accuracy the minutest possible intervals of time. In the recital of the descriptions which follow, I may have to repeat some particulars which many of the gentlemen now present have already heard.

To proceed—The experiments, now under consideration, were directed primarily and mainly to the elucidation of a single point in connection with the malformation of M. Groux—which point has, however, from the first, been made an essential element in the proper understanding of his remarkable and almost unique case, and about which the most eminent authorities have widely differed. This is, I need not say, the question of the synchronism or non-synchronism of the various motions of the heart and great vessels, as displayed by M. Groux. To particularize still further, it is whether the impulse of the principal beating tumor (the main body of it) seen in the middle of the sternal fissure, is or is not synchronous with the shock of the heart, as usually felt at or about the space between the fifth and sixth ribs. In regard to this question of difference, let me quote from some of the authorities who have made particular mention on this point.

M. Bouillaud says, "the pulsations (referring to the medio-sternal tumor) are synchronous with the pulsations of the carotid artery, the subclavian, radial, and with the shock of the heart." Prof. Hamernick says the pulsating tumor is "The right auricle, and not synchronous with the heart's apex." Dr. Ernst of Zurich writes, "It is clear that the part of the heart seen and felt contracts when it moves downward. This motion (he continues) is synchronous with the shock of the heart which is slightly felt between the fifth and sixth ribs." Dr. C. J. B. Williams says, "The visible pulsation in the middle third of the sternal vacuity immediately precedes the ventricular systole," &c. Dr. Gairdner of Edinburgh observes, that "the upper visible pulsation" (meaning that of the medio-sternal tumor) "precedes the apex beat by an interval appreciable, but not so easily appreciable." Dr. F. W. Pavy of Guy's hospital says, "The tumor occupying the position of the right auricle pulsates with the contraction of the ventricle and the production of the first sound of the heart," and he concludes, for this reason, that the tumor, which he admits to be the auricle, is put in motion by the contraction of the ventricle beneath. The committee of the New York pathological society, appointed to examine the case of M. Groux, say, in their recently published report, "The contraction of the tumor is synchronous with the impulse of the heart, at the level of the fifth rib." Again, most of those who believe these motions to be not synchronous, agree that the pulsation of the tumor in question precedes that of the others in point of time. M. Marc. d'Espine, of Geneva, however,

avers that "the pulsation in the middle of the sternal fissure *follows* so immediately, indeed, each systolic shock of the heart, that these two motions *seem* synchronous."

The delicate and beautiful instrument of Dr. Scott Alison of Edinburgh, called the sphygmoscope, has added much to the facilities for determining this vexed point. But it has not settled the question, nor can it, in my opinion, be settled by this instrument alone, since it is impossible for the eye to observe with equal distinctness two points at the same time, however proximate they may be. How much is this difficulty increased when, as in the case before us, these two points are in motion—still more, since those motions are unequal. Not so when the ear is appealed to. Any one skilled in the appreciation of harmony, *knows* that he can measure and determine, not two alone, but several sounds, resolving the component notes of a chord, struck severally at the same time, with unerring accuracy. With much greater facility can the ear—a musical ear—discriminate the minutest interval in a succession of sound, especially if of different pitch. I might here enter into the discussion, as to how limited an interval can be appreciated between any two sounds before their impulses become blended, so as to form a continuous or musical tone. But this is unnecessary to our present purpose. If there is, to the ear, an appreciable difference in time between two sounds, caused by the motions under consideration—provided the motions themselves are conveyed in equal times—then, I submit, these motions are manifestly not synchronous.

Such train of reasoning it was, as to the greater nicety of discrimination of the ear over the eye, so to speak, that led me naturally to the consideration of these experiments. Let me say, however, that I did not arrive unaided at the present form of their demonstration. Two ways, indeed, of accomplishing these results, at once occurred to me—one, and the more simple and obvious one, in the rude manner here depicted [of which this is the original pencil diagram*]; the other by calling in the aid of electro-magnetism. But of this latter agency I knew only of its ability to accomplish what I wished, some how—by what precise manner of mechanism, I knew not. Fortunately, I applied to my old friend and school-mate, Mr. Farmer,† who relieved me of all

*It should be stated that a bell-glass, with an elastic diaphragm, after the manner of Mr. Scott Alison's sphygmoscope, is employed to receive the impulses from the heart and circulatory vessels. For want of time, the diagrams which ought to have accompanied these descriptions are not given.

†Mr. Moses G. Farmer, electrical engineer, and co-inventor, with Dr. Wm. F. Channing, of the city telegraphic fire-alarm system.

difficulties on that score, by immediately suggesting the manner of accomplishing the ends desired, by means of the agency contemplated. The scientific reputation and ability of Mr. Farmer have long been recognized and acknowledged. All I can say in his praise would be wholly superfluous. I went so far with the first plan as to have a float made, with a piston attached, the object of which was to impinge directly against some light sonorous body, suspended or fastened in some way above. Such float, of delicate and ingenious construction, was devised by Mr. Joseph C. Wightman, which was admirably adapted to the purpose. Without fairly trying the first mode, however, it was determined to resort at once to the second.

But without further preliminaries, I will pass to a brief consideration of the experiments themselves. The first trial was made on Tuesday, December 21st, at the rooms of Mr. Farmer, in Washington street. There were present, Mr. Farmer, and his assistant, Mr. Rogers, M. Groux and myself. My original idea was to break the electro-magnetic circuit, by means of the motion, at the upper end of the delicate float, produced by the rise and fall of the fluid in the tube, as seen in the rough diagram I have before alluded to. At the first trial, however, Mr. Farmer suggested a modification of this mode, by dispensing altogether with the float, and attaching to the upper end of the tube a bell glass and diaphragm, of the same nature as that already employed to receive the impulse from the heart—the medium of communication being air alone. Our operations were now confined to an attempt at breaking the circuit, so as to bring out, with two successive beats, their corresponding sounds from the electro-magnetic machine—a feat which was only accomplished after a long and patient effort, since it required, on the part of M. Groux and myself, the most careful and delicate adjustment of one end of the instrument upon the heart, while the other was brought by Mr. Farmer, with the unaided hand, against the circuit breaker of the electro-magnetic machine. In this way the whole of the first session, of some two hours' duration, was employed.

On the next trial, which was made in the same place a couple of days afterward, we returned essentially to the first plan for interrupting the circuit, substituting for the material float of glass a few drops of acidulated water upon the top of the contained fluid (within the glass tube), which, as it rose and fell with the heart's impulse, came in contact with the end of a conducting wire, and thus served the purpose intended. The instruments, of which we used two (and

which, for the present, we may term the *sphygmosphone*), then being applied, simultaneously, to the proper points, and the wires delicately held, each by an operator, we were able, by careful manipulation, to produce two or three sounds in succession from both the impulse of the medio-sternal tumor and the shock of the heart at its apex, and even now, though imperfectly, to demonstrate to the satisfaction of us all, the *non-synchronism* of these two movements. But the difficulty here, as with the sliding piston, was to follow the eccentric movements of the fluid, in the tubes, which rose and fell unequally with the slightest variation of pressure against the body. To obviate this, resort was again had to the double diaphragm, as presenting, at all times, a known point; and the distal ends of the sphygmosphone, being, in this case, themselves fixed, allowed, by means of a simple and ingenious mechanism, a very accurate adjustment of the circuit-breakers. A continuous elastic tube was, also, substituted for the glass cylinders which had hitherto intervened, and water, instead of air, used for the communicating medium. By these modifications our manipulations acquired, at once, more ease and certainty, and, being found to answer well our purpose, no further time was lost in perfecting the mechanism.

At the next session, therefore, we found ourselves in condition to obtain and to note satisfactory results. And our first design being to ascertain beyond question whether the impulse of the prominent pulsating tumor, in the middle of the sternal fissure, is or is not synchronous with that of the apex of the heart, we made use of an instrument called the "telegraphic repeater;"* which is so constructed that of any two motions, that which is first, by ever so brief an interval, moves its armature and produces its sound, to the entire exclusion of the other. It mathematically follows that, if the two communicated motions are *synchronous*, neither armature will move; this, however, presupposes a high degree of perfection in the mechanism. Suffice it to say, that, with this apparatus, the instruments being applied to the medio-sternal tumor and to the apex, it was the impulse from the first which invariably set in motion the corresponding armature and gave out its sound.

In our subsequent sessions, the "repeater" was set aside, and a "Morse's double register" used in its place. This was so adjusted as to give forth two sounds, differing in pitch,

* This is an instrument used in telegraphing *through* messages over long lines. It is the joint invention of Mr. Farmer and the late Mr. A. F. Woodman of Portland.

and at the same time record the motions on paper, in the same way that ordinary telegraphic communications are written. Then, by the intervention of the electric clock, which was also made to mark its seconds on paper, it was easy to measure the time of the pulse-beats themselves, as well as the interval in the pulsation of any two points in the round of the circulation.

Not to go, at this time, too minutely and tediously into description, I will here give the result by calculation of a few of these trials, including some witnessed by gentlemen present on the evening of the 5th of January instant, and afterward repeated in connection with the delicate chronographic apparatus in the observatory at Cambridge. Before doing this, however, let me briefly allude to the Cambridge experiments, since they were in their nature, it is believed, both novel and interesting. They were done in the afternoon and evening of the 8th of January, Mr. Bond having, in the kindest manner, placed his beautiful apparatus in the observatory at our disposal. Our forces were, on this occasion, divided—M. Groux, Mr. Farmer, Mr. Rogers and myself taking our position in the private apartment of the city telegraph rooms in Court square; and Mr. Stearns the present able and efficient superintendent of the Boston fire alarm system, accompanied by Mr. Kennard, recently of the St. Louis fire alarm office, going over to the observatory. The telegraph between the central office in Boston and the observatory, let me add, was also kindly placed at our disposal, and, furthermore, I will say that the instruments used here were furnished from the city fire alarm office, and were the best of their kind.

At half past 3 P. M. a telegraphic notice from the observatory signified that every thing was in readiness there. But from the exhaustion and great nervous agitation of M. Groux, consequent upon recent illness, it was impossible to commence immediately the regular series of experiments, and nearly a couple of hours were spent in preliminary trials and tests. The line being found in perfect working order, the experimental apparatus at both ends also working beautifully, and M. Groux being now in a condition of comparative quiet, operations were commenced in earnest at about half past 5 o'clock. Some extracts from the original records taken down in Boston and Cambridge simultaneously, will perhaps more graphically portray the nature of our proceedings.

To begin—the beat of the pulsating tumor in the mediosternal space was tried. We were able to get several con-

secutive beats, which were also duly recognized at the observatory. Next, a series of apex beats was obtained, and recognized at the observatory. The observatory clock was now put in connection, and its tickings make audible and recorded in Boston.

The experiments then proceeded, as follows:

The impulse of the medio-sternal tumor and of the pulse at the wrist were taken together, and at the same moment recorded at the observatory. As the experiments now went on, they were interlarded with telegraphic queries and answers; and for the sake of clearness, we will prefix, when necessary, the words *Boston* and *Cambridge* to the parts of this dialogue, according as they emanated from the one place or the other.

After the experiment just alluded to, information was conveyed that it would be repeated.

Cambridge.—"Aye, aye."

Boston.—"Good signals these, save them."

Camb.—"Shall we put them in the clock now?"

Bost.—"Yes. And as our next experiment, we will try the apex and wrist."

Camb.—"Go ahead."

Bost.—"Any good signals then?"

Camb.—"Yes, one or two."

Bost.—"We will try that again. Any of these good?"

Camb.—"Some of them very good."

Bost.—"About what difference in time between the beats in this experiment?"

Camb.—"About two-tenths of a second."

Bost.—"In which does the difference appear greatest, this or the preceding experiment?"

Camb.—"Should say the former."

This question being repeated after additional trials, the reply was, "Wait till we can calculate them;" and shortly afterwards an answer was received, "The *former*, by a minute interval."

Bost.—"Now we will pass to another experiment.* Do you get a single or double stroke?"

Camb.—"No good double stroke, but something that looks like it."

* The operators at the observatory were not informed previously of the nature of this experiment. It was an attempt to record the medio-sternal and apex beats by applying the sphygmosphones to these points direct—an exceedingly delicate test, tried repeatedly with success in our private experiments. Prior to the response from Cambridge, Mr. Farmer remarked, that with a single line of communication only, it would be impossible to note clearly so minute a double beat at the observatory.

Bost.—"Try again; how is that?"
Camb.—"Better."
Bost.—"Once more; how now?"
Camb.—"Better still."
Bost.—"We will now repeat these three experiments in succession."

Toward the close of the session, the operators at the observatory were requested to count the beats to be sent over during the space of one minute. I then applied the instrument to the radial artery at my own wrist, an assistant taking the pulse at the other wrist. It was ascertained by counting, to be sixty-six in the minute. The question was now put to Cambridge, "How many?"

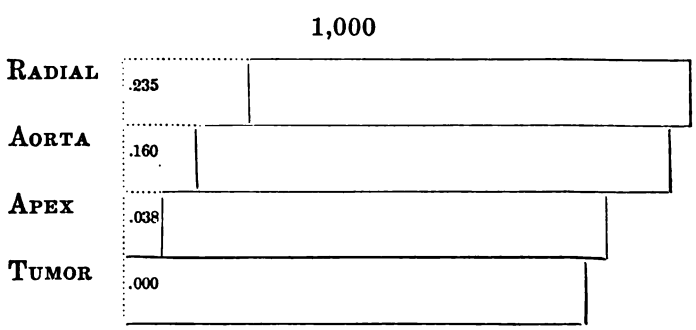
Camb.—"Sixty-six."
Bost.—"Once again."

M. Groux now applied the instrument to the medio-sternal tumor, for the period of a minute, and its pulsations were found to be seventy-two. The query was again put, "How many?"

Camb.—"Seventy-two."

But the above will suffice to show the nature of our proceedings; this session was continued without intermission for six hours.

The following are some of the important results obtained which bear upon the question at issue: the whole number of sessions thus far has been ten—the calculations (made by Mr. Farmer) are based on the average of selected examples taken from all the experiments. They are expressed, in a rude way, by the diagram below:



and may be thus stated. The whole duration of the pulse-beat is represented by 1,000. Then the commencement of the beat proceeding from the medio-sternal tumor being .000, the interval to the apex-beat was found to be .038; to that of the ascending aorta, at its junction with the arch,

.160; that of the radial artery at the wrist, .235; being in thousandths of a pulse beat.*

Lastly—when at the final session (on the day preceding M. Groux's departure to Philadelphia), the ends of both the instruments were placed, as nearly as possible, over the apex of the heart, the result, both to the ear and as recorded by the chronograph, was absolutely a synchronism of sounds. Calculations were also made as to the time in which the heart's impulse is transmitted to the carotids, the temporal arteries, the abdominal aorta, and other points in the circulation, which with other experiments, may be given at some future time.

As to any practical advantages which may be derived from a knowledge of these facts, it would, perhaps, be premature now to speak. I would venture to suggest, however, as one probable result of these and similar illustrations, some additional means to our resources for diagnosis in aneurism and other obscure diseases of the aorta and great vessels, concealed in the cavities of the thorax and abdomen. But let me say, in conclusion, as I intimated at the outset, that the results above given and the opinions offered, as well as the experiments themselves, in their present stage, are at best imperfect, and that before any ultimate scientific deductions can with safety be made, the experiments must be repeated, again and again, with the most perfect apparatus possible, and all errors and inaccuracies eliminated by a multitude of trials.

Boston, Jan. 24, 1859, 31 *Chestnut street.*

IV. *On Headache.* By Dr. Symonds, Physician to the Bristol Infirmary.—(Medical Times and Gazette.)

The following statistical memoranda and conclusions are taken from one of the Gulstonian lectures for 1858:

"*Statistical memoranda.*—In order to obtain some numerical data as to the frequency of certain presumed causes of headache, and as hospital registers would not supply information respecting cases which only casually come within their scope, I distributed some circulars of queries, for obtaining replies to which I am much indebted to many of my profes-

* Taking the Cambridge experiments alone, and the above intervals would be expressed by the figures .054, .156 and .237 respectively.

sional friends. They were queries which were easily answered, and that the answers were for the most part given thoughtfully and carefully, was obvious from the consistency in themselves, and from the general agreement between the different respondents. Though I cannot bring forward any very new results from the answers, yet they afford confirmation to many of the remarks which I have ventured to make upon the disorder under consideration.

We may first direct our notice to those points which indicate a neurotic susceptibility on the part of the subjects of the disorder.

Of 90 cases, 76 were females. These numbers established more strongly than I should have suspected, the fact which is testified by most of the old writers, that females are more frequent sufferers. If we endeavor to ascertain whether this liability of females bears relation to their sexual functions, we do not find much to support this supposition. Of the 76 females, 40 were single; out of the 76, there were 35 who referred to the periodical health as having been in some way connected with their attacks; very few dated from puberty, but a large number from early life. Of the 22 out of 90 who referred to previous illness, none specify illness referable to pregnancy or parturition. In 11, loss of blood is mentioned; but while some speak of it as artificial, none refer to menorrhagia, or to the floodings of abortion or childbed. Now, every practitioner must have noticed that women who have suffered from such losses have been very liable to headache; but it is clear from the replies in general, that the specially feminine proclivity to headache is independent of these casualties. But we have said that 35 did refer to the periodical health; and the result of my cross-examination in many of these cases brought me to the conviction that the menstrual function only presented occasions of offence, exciting causes as we often call them, but that the earlier antecedent was a constitutional liability not dependent on this function.

Putting aside the catamenial function, we enquired into the mode of life, and found nothing to lead one to suppose that this was importantly concerned in the production of female liability.

The predisposition more probably originates in the nervous system; and it is needless here to adduce proofs of what is admitted on all hands, that nervous mobility, irritability, hyperæsthesia, or by whatever other name we choose to designate susceptibility of nervous disorder, is oftener found in the female than in the male subject. It is likely to exist

in organisms which evidence a capability of so much fineness and delicacy of perception, united with so much proneness to emotional excitement, and in which also we observe the functions of organic life to be so readily wrought upon by passing states of thought, sensation and emotion.

Of the exciting causes, I find that emotional disturbance has the highest number. Out of 90 cases, 53 declared this to be one of the causes of their attacks; 48 also considered that atmospheric states were to be blamed; and 25 specified thunder.

It would be little better than a platitude to say that it is far more difficult to trace the origin of a predisposition superinduced on the system, than to indicate causes nearer at hand. Accordingly, in these answers, although the questions afforded sufficient opportunities of stating circumstances in the mode of life, occupation, habits, climatic influence, &c. which might have begotten the tendency, yet very little light is thrown on this subject by the answers. And I incline to the belief, that the cause of this tendency lies too far off to be reached by reference to the experience and consciousness of the individual. It lies in the original mould of the nervous system. This conclusion is supported by the fact that 44 had suffered from very early life, and a large proportion of these use the formula 'as long as they could remember.' An additional presumption appears from the proof of inheritance of the liability. In 19 cases, the mother is mentioned; in 9, the father; and in 12, both parents—in all, 40 give explicit evidence of hereditary predisposition, and a few others mention cases in collateral branches.

The negative evidence as to *diet* is curious. Out of the 90 cases only 19 blame their diet, and these, if they specify any at all, only mention some article of food which has been at times an apparent and immediate cause of disturbance; of the remainder, 62 deny that diet has any thing to do with their attacks; and 9 make no response, or a very indefinite one.

For these negative results as to diet, there are two obvious reasons: first, that people are very slow to observe the gradual or habitual influence of any system of diet into which they have fallen by custom or association; and, secondly, that if food does not produce marked disagreement in the first stages of digestion, they are ignorant of what passes in the duodenal and subsequent processes.

As to the influence of *climate* in augmenting the predisposition, more evidence is given: 30 either say the climate

is a matter of indifference, or they make no answer. But 29 seem very clear that they are least liable to attacks of headache in places where the air is dry and bracing; 6 commend cold atmosphere; 6 condemn it; 8 praise warm atmosphere; 3 dislike it; 6 are in favor of sea air, and 4 are averse to it. I do not attach any great importance to the paucity of answers as to marine air, because it was not particularized in the questions. Still, if sea air, *quâ* sea air, had made any great impression, either as a friendly, or as a hostile agency, I think it would have come out in the answers.

Fatigue is mentioned as an exciting cause by 32, though, from inadvertence, the queries contained no pointed reference to it.

Some of the questions were framed with the view of ascertaining how far numerical statements would bear out the prevalent notion of a connection between headache and disorders of the digestive organs.

Out of the 90 cases, 33 said that *vomiting* or nausea occurred in their attacks; 12 reported *nausea only;* 35 experienced neither; 10 made indefinite answers, or none. Of the 45 cases of vomiting and nausea, 33 declared that the vomiting came on after the accession of pain. Of the rest, 6 spoke of the sickness as simultaneous, and 6 gave no evidence on the subject.

To the question whether the pain had been relieved or removed by sickness; 18 of the 33 said they had been relieved sometimes or partially, and 2 said the pain had given way after prolonged vomiting. Of these one used the expression, 'after bringing up pancreatic juice.'

These answers would scarcely lead to the inference that the headache depended on the presence of any thing in the stomach; for though 18 of those who had vomited spoke of being relieved, this term is very vague, and it is all but impossible to separate the mere effects of the act of vomiting on the circulation and the nervous system, from what might be due to the ejection of food or morbid secretions from the stomach.

Not more satisfactory are the replies to the question as to the action of the bowels. Of the 90, only 12 distinctly affirmed any relation between their headaches and the action of the bowels; 54 denied any connection; 17 gave ambiguous answers, and 7 were silent.

And in reply to whether they had derived relief from aperients, only 15 gave distinctly affirmative answers; 17 said 'sometimes,' or used other qualifications; 6 were doubt-

ful; 3 were certain that they were made worse by aperients; 36 declared that they were not relieved; and 13 gave no distinct response. These replies do not tell much either way. When aperients have been taken, the pain generally subsides spontaneously before the bowels have acted; and, therefore, even with all the disposition which most patients manifest to attach undue importance to this function, they would not assign the relief to the action if the action occurred subsequently to the relief of pain. And yet we know theoretically that they might do so, since the artificial impulse given to the function of the small intestine may have removed sources of irritation. On the other hand, the affirmative respondents are as likely to have unconsciously set their replies into consonance with their preconceived notions of the value of aperients.

To have asked my catechumens whether their headaches had any thing to do with bile or bilious disturbance, would have, I well knew, called forth a chorus of 'Yes.' But as I should have been none the wiser, I thought it better to limit the question to the 'accumulation of bile manifested by the skin.'

Of the 90, 65 were obliged to say 'No;' 14 gave a doubtful or qualified 'Yes;' and 11 were mute. When asked if they were liable to indigestion, 39 answered in the affirmative, but with qualifying terms, indicating that they were not quite certain about the matter.

I will not trouble you with further details, but as far as these replies bear upon the relation between headache and disordered digestion, the evidence is, to say the least, ambiguous and unsatisfactory. But if any decided inference is to be drawn from it, we must conclude rather against the existence of such a connection in many of these cases, and we do not advance beyond the fact that when there is the disposition to cephalagia, the digestive organs may afford occasions of excitement to that disposition.

Two of the questions were intended to elicit facts as to the dependence of the attacks on hyperæmia. Of the 90 cases, 38 reported that their headaches were increased by the recumbent position, 27 that they were relieved, 5 were doubtful, and to 17 it was a matter of indifference. Of those who were relieved, some said that the position at first was painful, but afterwards that it became comfortable; and others appeared to think that the rest was quite as important an item as the recumbence. Change of posture, of course involving motion, almost uniformly aggravates the pain; and we may fairly suspect, that of those who say that

the pain is increased by laying the head low, some have been deterred from fairly trying it by the first discomfort of the change.

To the question whether the pain was relieved by stimulants, 35 answered in the affirmative, 30 simply denied, 8 reported it to be absolutely increased, and the remainder were doubtful or indifferent, or had never tried such remedies. I do not think that much value can be attached to these answers. A headache may be associated with passive congestion, and may be relieved by stimulants. It may be purely nervous, and yet aggravated by them, because in so tender a state of the nerves the slightest increase of vascular disturbance will increase the suffering, whether produced by exciting drinks, or as we have just noticed, by slight changes of posture.

The enquiries as to the operation of these and other agents were made, chiefly to obtain information as to the pathology and etiology of the disorder. But one general question was put as to therapeutics: 'From what kind of remedies have you derived most relief?' The question was too wide; for, while some enumerate the remedies which have done good at the time of pain, and also those which have lessened the frequency of returns, others have confined themselves to the treatment which has relieved the attack: 26 specify benefit from *tonics*, *quinine* being mentioned oftener than any other; 15 mention *sedatives;* 11 insist on profound *quiet;* 4 speak well of *cold applications;* 2 of *warm;* 1 ascribes relief to *leeching*, and 1 (the same respondent) to *blisters;* 3 are so unenterprising as to have tried nothing; 12 have been altogether unsuccessful, and they now rely only on time and patience. The rest give vague answers, not requiring further comment.

As far, then, as the information is positive, we may say that the evidence is in favor of tonics and sedatives.

It is curious that in the whole series no mention is made of phlebotomy or cupping; and leeches are noticed only by one person. Had the same set of questions been answered five-and-twenty years ago, I presume that antiphlogistic remedies would have received more notice.

Before closing this statistical attempt, I may mention that of the 90 cases, 43 report that the attack comes on very early in the day—most of them on *waking*. It would be easy to speculate on the cause of this general fact. Some would blame the position in bed; others the long interval after food had been taken; others the state of the nervous centres belonging to sleep; others the diminution in the in-

tensity of terrestrial magnetism in the morning. For my own part, I wait for further illumination on this as on many other topics belonging to the whole subject."

The conclusions to which Dr. Symonds arrives are these:

1. That headache has an importance of its own; and that, whatever connection there may be between this affection and the disorders of other parts of the body, the head itself is to have the chief consideration.

2. That headache, whether primary or sympathetic, considering the frequency of its occurrence, is rarely dependent on disorder involving danger, or serious impairment of the function of the brain.

3. That symptomatic headache, even when belonging to grave lesions, may be benefited by the treatment applied to the primary forms.

4. That the primary headache, whether caused by an original susceptibility in the ganglionic nerves of the brain or by a morbid sensibility resulting from previous disease or weakness, is to be relieved by sedatives, and to be cured by tonics and nervines. He will be the most successful practitioner who can best wield those two great weapons, quinine and arsenic.

5. There is natural tendency in this disorder to decline with advancing life.

CHRONICLE OF MEDICAL SCIENCE.

PHYSIOLOGY.

1. *On the Physiology of Digestion.* By M. Busch. (Virchow's Archives.)

Mons. Busch furnishes valuable information on the physiology of the digestion and nutrition in general, derived from observations and experiments made on a female patient, aged thirty-one, in whom, through external violence, the intestinal tract was divided into two separate portions—the superior consisting of the stomach, duodenum, and a small part of the jejunum—the inferior, of the larger part of the jejunum and the whole of the ileum and colon. The an-

thor had therefore the rare opportunity of observing the phenomena of a fistula of a jejunum in an otherwise healthy human subject. The accident had taken place six weeks before the admission of the patient into the University hospital at Bonn; the wound in the abdominal walls was healed, with the exception of the fistulous opening. The woman had a voracious appetite, and devoured large quantities of food; the greatest part of this, mixed with the gastric, pancreatic, and intestinal secretions and bile, passed away from the fistulous opening in the jejunum; no particle of it entered the contracted and too distant aperture of the inferior portion of the intestinal tube. Extreme emaciation, loss of strength, tendency to sleep and hoarseness were amongst the principal constitutional phenomena.

The plan pursued by Busch, in order to restore the strength of the patient, consisted in the introduction of strong broths with eggs beaten up in them, occasionally also of pieces of boiled eggs and meat, into the inferior portion of the digestive tube. The strength of the patient increased rapidly under this treatment, and she gained also considerably in weight. This fact is of great interest, as it corroborates the view, that nutrition can take place—for some time, at all events—without the admixture of the gastric, pancreatic, duodenal and hepatic secretions to the food. One might feel inclined to draw the further inference, that a complete fistula situated in the upper part of the small intestines, renders the nutrition of the body through the stomach impossible; but this inference is made improbable by the circumstance that the ingestion of food through the mouth alone was sufficient to keep up and increase the strength of the patient after the recovery had reached a certain stage under the plan above described.

Although our space is limited, we cannot refrain from giving some of the principal observations made by the author, referring for the details to the essay itself:

1. There are two distinct sensations of hunger; the one is caused by the nervous system in general perceiving the want of fresh supply for the exhausted tissues; the other is produced by the nerves of the digestive organs alone. The former of these may continue, even when the digestive organs are filled with food.

2. The peristaltic motion of the intestines is not continuous, but shows periods of rest and of increased action; there is, however, no regularity in the alternation of rest and action. The force of the peristaltic motion could not be ascertained with precision, but it was sufficient to overcome a

column of water two feet high. In the lower portion of the digestive tube, distinct antiperistaltic motion was frequently manifested.

3. The quantity of the intestinal juice (succus entericus) is very small and constantly alkaline. It will be well remembered that this observation is in opposition to that of Frerich's, but in corroboration of Bidder and Schmidt's results. The per centage of solids varied between 3.87 and 7.4 per cent., which is considerably greater than that stated by the authors just mentioned.

4. There can be no doubt that the intestinal juice exercises a digestive influence on proteinaceous substances. This process, however, is accompanied by that of putrefaction.

5. The intestinal juice transforms starch into grape sugar.

6. It does not transform cane sugar into grape sugar.

7. The cane sugar, absorbed as such, does not reappear in the urine.

8. Without the influence of bile or pancreatic juice, there is either no absorption of fat, or at all events it takes place only to a very limited amount.

9. The reaction of the mixture of digestive secretions passing from the upper portion of the tube during the state of fasting, was almost always neutral, only in rare instances slightly acid or alkaline.

10. This mixture of fluids did never exhibit the reaction of saliva. We may therefore conclude that the saliva is absorbed before the mixture reaches the jejunum.

11. The average per centage contained in these fluids was 2.48.

12. The first portions of the food introduced into the stomach appeared in the jejunum from between fifteen to thirty minutes after the commencement of eating.

13. Solutions of cane sugar disappear to the greater part already in the beginning of the digestive canal; what reaches the jejunum is transformed into grape sugar.

14. Raw albumen of eggs is likewise partly absorbed already in the stomach and adjacent part of the digestive tube; the portion which enters the jejunum is unchanged.

15. Gum passes unchanged into the small intestines.

16. Gelatine becomes dissolved, and does not coagulate again; the greater part of it is absorbed.

17. Part of the casein contained in the milk reaches the jejunum in an uncoagulated state.

18. The mixture of the digestive fluids contained in the duodenum emulsifies fatty substances completely, if its reaction is alkaline, but less completely if it is acid.

19. This mixture of fluids exercises likewise a digestive influence on proteinaceous substances.

20. The lowest quantity of digestive fluids entering the jejunum within twenty-four hours amounts to more than one-seventeenth of the weight of the body.

2. *On the Nervous Centres of the Uterus and Intestines.* By MM. SPIEGELBERG, LUDWIG, &c. &c. (Schmidt's Jahrb.)

Spiegelberg concludes, from numerous experiments on rabbits, cats and guinea-pigs, regarding the movements of the uterus:

1. That the stoppage of the circulation is the cause of the peristaltic movements of the uterus. The uterus resembles in this respect the intestinal tract. Compression of the aorta immediately below the diaphragm causes always movements of tubes of the uterus and intestinal tract, which continue as long as the compression lasts, and cease as soon as the interruption of the circulation is suspended.

2. The pneumo-gastric nerves exercise no immediate influence on the uterus; but if they stop the action of the heart, this circumstance acts like the compression of the aorta.

3. Irritation of the medulla oblongata excites contractions of the uterus, which phenomenon is not influenced by section of the pneumogastric nerves.

4. The cerebellum is the principal centre for the movements in question. Irritation of any part of it excited the action of the uterus; that of the posterior half of the corpora quadrigemina was likewise often successful; that of the cerebrum never.

5. The movements may be excited from every portion of the spinal marrow, but especially from the lumbar and sacral portion. The movement of the pregnant uterus may be stopped by means of irritation of the spinal marrow; this, however, the author attributes to over-excitation.

6. The sympathetic and sacral nerves form the means of communication between the nervous centres and the uterus.

7. The impulse to the parturient action of the uterus is not given by the nervous system, but probably by local changes of the circulation in the uterus, occurring at the termination of pregnancy.

The same author confirms the dependence of the intestinal movements on the spinal marrow and brain. From all places which excite the movement of the uterus, that of

the intestines may be likewise excited. Interruption of the circulation effects likewise very active movement of the intestinal canal; compression of the aorta does it to a greater degree than compression of the vena cava or vena portæ. This would be opposite to Brown-Séquard's view, that the carbonic acid in the blood is the cause of the peristaltic movements. It would also appear incorrect to ascribe the peristaltic motion of the intestines exposed to the air immediately after the death of the animal, merely to the excitation by the air.

Pflüger's assertion, that irritation of the splanchnic nerves stops the peristaltic movement of the intestinal canal, has been repeatedly contradicted. Kupffer and Ludwig found that irritation of the nerves in question may as well excite the action of the intestine as also stop it, according to the condition of the latter. We may add to this, that there are now various observations extant, that the same nerve may cause movement and may arrest movement. Schiff's view, that the arresting of movement is not a peculiar action of the nerve, but the product of over-irritation, i. e. exhaustion, appears to deserve the attention of experimenters. We need only mention that Erkhard observed accelaration of the heart's contractions by moderate irritation of the pneumogastric nerve.

Budge found, in his experiments on various animals, contrary to the view expressed by Romberg, that the ganglion semilunare and the ganglion mesaraicum are in a considerable degree sensitive; at all events, as sensitive as the pneumogastric nerve, the splanchnic nerve, the ramus communicans, and the cervical ganglion of the great sympathetic; but much less so than the fifth pair or the posterior roots of the spinal nerves.

Czermak confirms Ludwig's observation, that irritation of the sympathetic branch of the submaxilliary gland, or of the cervical portion of the sympathetic nerve, may excite the secretion of saliva just as much as irritation of the glandular branch of the lingualis. The author remarks, however, in addition, that electric irritation of the cervical part of the sympathetic nerve may diminish and even suspend the secretion of saliva. Sometimes the irritation of the glandular branch of the lingualis does not influence the secretion of saliva when the sympathetic nerve had been previously irritated. If both nerves are stimulated simultaneously, the secretion rapidly reaches its maximum, but after fifteen or twenty minutes it becomes diminished and frequently ceases altogether. We have therefore another

proof of the arresting action of the nervous system, if we do not prefer to explain the phenomenon just described as the product of over-irritation.

3. *On the Influence of Heat and Electricity on the Spinal Cord.* By Dr. F. KUNDE.

1. Two normal frogs being placed in water, the one at the temperature of 1° C. and the other at 31° C., the respiratory movements and the pulsations of the heart abate in frequency in the one kept cool, while they increase in the other.

2. The heart's pulsations of a frog kept at 1° C. average 20–24 per minute; at 31° C. they average 60–64.

3. A frog may remain for twenty-four hours at a temperature of 1° C. without dying; the muscular movements become at such a temperature slower and less intensive.

4. A frog that has spent some time at a temperature of 34° C. loses both voluntary and reflex movements. Blood and lymph heart continue, however, to pulsate. Should, however, this temperature be kept up for a considerable time, the animal dies without the occurrence of cadaveric rigidity.

5. If a frog be for some time exposed to the influence of an interrupted current of electricity, so that tetanus has primarily occurred, after a time, when examined after cessation of the current, it is found to have lost both voluntary and reflex motion, the blood heart still beating forcibly. In a short time, such a frog recovers perfectly.

6. An elevated temperature and electricity remove the tetanus induced by strychnine.

7. A frog tetanized by a definite dose of strychnine, loses its tetanus at a definite temperature, and is completely restored in a short time by a proper regulation of the temperature.

8. A frog which has received a certain quantity of strychnine, becomes tetanic at 31° C., but not at 16° C. Even so a frog may become tetantic at 16° C., though it was not so at 1° C.

9. The administration of strychnine to frogs may be so regulated that they may remain unaffected at any definite temperature, and yet become immediately tetanic on a proper modification thereof.

10. A frog rendered tetanic at any temperature, may be maintained in this state for fourteen days (and probably

longer), by being kept at a temperature of 1° C. or laid on ice.

11. A frog which has lain several days on ice, tetanic from strychnine, loses this condition in a very short time by the application of warmth (as by holding in the hand).

12. A frog which has almost ceased to be tetanic at any definite temperature (as at 15° C.), has the tetanus immediately reproduced by being laid on ice or placed in a temperature of 1° C.

13. If a frog, tetanized by strychnine, be exposed to a current of interrupted electricity sufficient to produce tetanus in a normal frog, it speedily loses the strychnine tetanus both by the ascending and descending current.

14. A frog tetanized by strychnine, may for eight hours be exposed to the most powerful action of two of Daniel's batteries; nevertheless the tetanus recurs a short time after cessation of the current, while mechanical and chemical irritants are unable to produce reflex motions, though electricity can, immediately after removal of the wires, produce convulsive movements. (All these experiments must be made on newly caught frogs, and they must be reckoned not by the dozen but by the hundred.)

15. If two cats, from the same litter, get the same dose of strychnine, and both become tetanic, and the one then placed in a temperature of from 16°–19° C., and the other at 40°–45° C., that cat condemned to the low temperature speedily dies, the other is rapidly restored to its status normalis.—*Verhand. d. Phys. Med. Gesellschft. in Wurzburg.*

4. *On the Suspension of the Radial Pulse in Forced Extension of the Arm.* By Dr. A. Verneuil.

The suspension of the radial pulse is always observed when the extension of the forearm on the arm is actively or passively exaggerated. The difficulty experienced in exploring the ulnar artery does not allow an explicit statement in regard to the suspension of its pulsation. The anatomical dispositions harmonize with direct experience, so as to prove that in forced extension the arteries of the forearm and hand receive but little blood. In this position the aponeurotic expansion of the biceps and the brachialis anticus press the humeral artery against the convex projection formed by the coronoid process of the ulna; the artery is thus flattened for a length of about two centimetres, and, according to the experiments of M. Verneuil, this phenom

non must take place in a great number of physiological movements, particularly in mechanics—a fact which may serve to explain the predisposition shown by the termination of the brachial artery to spontaneous arteriectasis. This fact could also be made use of as a means of arresting the flow of blood in cases of arterial hemorrhage from wounds of the forearm, when there is no assistant present to compress the humeral artery.—*Journal de Physiologie—Archives Générales—N. A. Med. Chir. Rev.*

5. *Some Experimental Researches on the Effects of Cold on the Human Body.* By MM. THOLOZAN and BROWN-SÉQUARD.

A series of researches permits the authors to draw up the following propositions:

1. If our extremities are exposed to the action of cold water, they can in a very short time lose a considerable portion of their temperature (according to our experiments, from ten to eighteen degrees).

2. After an extremity has lost much of its temperature (from ten to eighteen degrees), it does not regain it before the end of forty-five minutes or an hour, in an atmosphere varying from twelve to eighteen degrees.

3. Contrary to the opinion of Edwards, the lowering of the temperature of a small part of the human body has no sensible influence upon the general temperature.

4. The lowering of the temperature of one hand can produce considerable falling of the temperature of the other, without the general temperature of the body being sensibly diminished.

Dr. Brown-Séquard has ascertained that the latter phenomenon becomes more marked if the immersed hand is the seat of more intense pain, and if the temperature of the air in which the other hand is kept is less elevated; it is also proportional to the contraction of the vessels of the hand not immersed, and it is this contraction exclusively which produces the falling of the temperature. This phenomenon is an example of reflex action upon the blood-vessels, their muscles contracting under the influence of an irritation applied to the sensitive nerves of another extremity; it is further remarkable, that this reflex action takes place only between homologous parts, and that the immersion of the hand, for instance, into cold water, exercises no appreciable influence upon the temperature of the feet.—*Journal de la Physiologie—Archives Générales—N. A. Med. Chir. Rev.*

MEDICAL PATHOLOGY AND THERAPEUTICS.

1. *On the Inhalation of Carbonic Acid in Granular Pharyngitis.* By Dr. WILLEMIN of Vichy. (L'Union Médicale.)

The therapeutical application of the inhalation of carbonic acid has been made only in late years, and principally in Germany. Bischoff and Ennemoser have made some experiments with carbonic acid, and have come to the conclusion, that when the gas is not breathed pure, nor for too long a time, it produces no unpleasant effects; but, on the contrary, that the respiration of the patients becomes more easy, and the expectoration more abundant. Germany possesses, in the present day, a great number of establishments where the inhalation of carbonic acid, more or less mixed with air or steam, is methodically practiced. The gas is collected by means of an apparatus to which a caoutchouc tube is adapted, permitting the gas to be directed into the interior of the mouth, on the neck, or on any other part. At Pyrmont, a bell-glass has been placed over the spring from which the gas is disengaged, and three tubes carry away the carbonic acid. At Franzensbad a large basin has been constructed, and the patients descend into it by several steps, at the bottom of which the gas is disengaged. The superior stratum of air contains fifteen per cent. of carbonic acid; and in proportion as the patients are accustomed to this atmosphere, they approach nearer to the orifice from which the gas escapes.

The principal effect of the use of this gas, according to the German physicians, is to increase the activity of the circulation, and to depress the functions of the nervous system. The indications for this mode of treatment are thus drawn up by Lersch: it is especially serviceable in cases of dyspnœa dependent on the accumulation of mucous secretion in the pulmonary vesicles, or on emphysema of the lung. Helfft considers that this gas exercises a stimulant action upon the respiratory tract, and he recommends its use in chronic inflammation of the larynx and of the pharynx, in bronchial catarrh, and humid asthma. M. Goin recommends its use in nervous affections of the respiratory passages, as in asthma, and also in intermittent fever. The contra-indications of this inhalation are said to exist whenever any affection of the respiratory passages is accompanied by ex-

citement of the circulating system. The German physicians unanimously forbid this treatment in phthisical cases. According to Gräfe, it is absolutely injurious when cavities are formed, these being often surrounded by a zone of inflammation. Under the influence of the carbonic acid inhalations the expectoration is diminished, and the fetor of the secretions is corrected, but the inflammation of the pulmonary parenchyma is augmented. Its use must also be avoided in hæmoptysis.

Dr. Willemin draws the following conclusions upon the inhalation of carbonic acid—namely, that when mixed with air, this gas produces a more or less active excitement of the respiratory passages, the action being analogous to that of the same gas upon the skin, the eye, &c., and this effect ought to contra-indicate its use whenever there exists a disposition to acute inflammation.

That the excitement is followed by a sedative effect, which appears to depend on a special action of this gas on the nervous system, the respiration becomes easier, the cough is allayed, the circulation is retarded, and the redness of chronic inflammation diminishes.

That continued for a longer time, or made with a larger proportion of gas, these inhalations cause vertigo, relaxation of the limbs, and anæsthesia.

That in addition to this general action, the gas possesses an anæsthetic power over wounds and parts denuded of epidermis.

That these inhalations are especially efficacious in chronic inflammations with atony of the mucous membrane and exaggerated secretion, and in nervous affections of the respiratory passages; but that they ought to be avoided in phthisical cases.

2. *On the Practical Use of a Laryngeal Speculum in the Diagnosis and Treatment of Diseases of the Tongue.* By Dr. SEMELEDER. (Zeitschrift der k. k. Gesellsschaft. der Aerzte zu Wien.)

Garcia,* Czermak,† and others, have employed a speculum for the examination of the fauces and the neighboring parts; a strong light is necessary, which, whether it be sunlight or artificial illumination, must be thrown on to the speculum

* See British and Foreign Medico-Chirurgical Review. Jan. 1856.

† Sitzungsbericht der Math. Physik. Classe der k. Academie Wissenschaften. 1858.

while the observer protects his own eye from the glare by a shade, similar to that of the ophthalmoscope. The speculum is to be warmed, to prevent its being dimmed by the patient's breath, and its temperature may be tested by being applied to the observer's cheek. In patients whose velum palati is not adherent, the soft palate should be pressed firmly upwards with the mirror, in order to prevent it from slipping down behind the speculum, and also because by this means the fauces will not be irritated and reflex action excited. The patient's tongue offers numerous impediments, and some management and experience is requisite to manipulate properly. When making an observation, the patient should quietly take a deep breath, and hold it as long as possible. The slanting direction of the speculum will enable the observer to see the root of the tongue, the epiglottis, and the introitus laryngis. Within the larynx the superior thyro-arytenoid ligaments, the chordæ vocales, and through them, with a good light, the inner surface of the trachea may be seen. Dr. Semeleder agrees with Dr. Czermak, that occasionally the bifurcation of the trachea may be recognized. The amount of control which patients can exercise over different parts of the fauces varies, and accordingly the extent of surface reflected in the speculum varies also.

The case which Dr. Semeleder reports is as follows: A girl, aged fourteen, came as an out-patient, with ulcers of the soft palate and fauces, and was cured with a solution of iodine in glycerine, applied locally. Ten weeks after, she returned, with a hard tuberculated nodule on the middle of the tongue, two lines long, covered with enlarged vessels, which in a fortnight was converted into a large ulcer, with hard, thick edges. Mercurial treatment only aggravated the disease; improvement took place on returning to iodine treatment locally and generally.

"On the 8th of April the author commenced the use of Garcia's laryngeal speculum. In the middle of the tongue was a large nodule, and in front a small one; on the right side of the nodules was a deep, ulcerated fissure, curving posteriorly towards the mesian line, and terminating three-quarters of a line behind the point of union between the anterior papillæ vallatæ, like a button-hole or loop-hole, in a hole which was three lines in diameter; from this hole asteroid fissures were given off, which were partly lost at the sides, partly disappeared behind the epiglottis. The papillæ vallatæ of the right side occupied this fissure, and could not therefore be seen. The epiglottis and epiglottic

folds, as well as the chordæ vocales, were somewhat reddened."

Dr. Semeleder found that he was able to make the local application of the solution of iodine in glycerine* with much more precision by the aid of the speculum, and that the curative process was thus much accelerated. Fresh granulations formed, and a gradual contraction and cicatrization of the cavity ensued.

Dr. Semeleder remarks that negative results, i. e. the proof of the parts shown by the speculum being in a normal condition—are also useful, and concludes his paper by observing that by proper manipulation the use of the speculum facium may be continued for a considerable period at a time without giving rise to any inconvenience to the patient, whereas the awkward introduction of the instrument would at once give rise to retching in the same individual.

Since the appearance of the paper from which the foregoing extract has been made, Dr. Semeleder has, in the same journal (19th July 1858) described an improved illuminating mirror instrument for examination of the fauces, to be worn as an eyeglass or a pair of spectacles by the observer. It is described as follows: A metallic, highly-polished concave mirror, eight centimetres in diameter horizontally, and with a focus of twenty to twenty-five centimetres, is provided with a central opening, to the posterior surface of which a metallic nut is attached, with a perforation corresponding to that in the mirror. The nut is held by two cups, which are pressed against one another by two springs given off at the back of the mirror; the nut is movable on two axes, but is sufficiently fixed to retain any given position. A concave disc corresponding to the circumference of the eye, is attached to the posterior surface of the cups, and fitted into the frame of an eyeglass or spectacles; this disc is also perforated, so that there is a continuous channel from the mirror to the eye of the observer.

3. *On the Employment of Oil of Turpentine and Opium in Large Doses in the Treatment of Severe Puerperal Diseases.* By Dr. E. Bonfils. (Bulletin Général de Thérapeutique.)

M. Trousseau has lately employed, with considerable success, a method of treatment, proposed originally by Dr.

* ℞ Iodinii, grs. iij; potassi iodidi, grs. xvj; glycerinæ, ʒj.

Graves, in puerperal diseases. This treatment consists in giving opium and oil of turpentine in large doses to women in child-bed who are attacked with metro-ovaritis, peritonitis, uterine phlebitis, &c. Among other cases, M. Trousseau has treated in this manner, and with success, a woman attacked with peritonitis and double pleuro-pneumonia. He also employed this plan in another case of a woman attacked with general and very severe peritonitis, which was very rapidly checked and afterwards cured; but although the cure appeared to be permanent, the patient was unfortunately seized with hectic symptoms of an insidious character, and sunk under what appeared to be a putrid infection. In the first case the opium was prescribed in pills and the turpentine in injections. At first five centigrammes (about one grain) of opium were given in five pills, to be taken daily; then the dose was gradually augmented till it reached about two grains a day. The opium was continued for thirteen days. The turpentine was administered at first in the dose of ten grammes (about two drachms and a half) in two glysters, one in the morning and the other in the evening; then the quantity was progressively augmented to thirty grammes (about seven drachms and a half). In the second case the opium was also given in pills, in the dose of five centigrammes (about one grain) for three days. The oil of turpentine was administered by the mouth in capsules, each containing one gramme (about the fourth of a drachm) of turpentine; six of these capsules were taken every day, and they were continued for six days.

4. *On the Treatment of Inflammation by Digital Compression.* By M. Vanzetti, Professor of Clinical Surgery in the University of Padua. (Giornale Veneto di Scienze Mediche.)

From the success which has attended the treatment of aneurisms by manual compression of the arterial trunk, M. Vanzetti was induced to apply the same method to the treatment of inflammations, in those cases where the artery leading to an inflamed limb is accessible to the finger. He has several times had recourse to digital compression of the femoral, brachial or subclavian artery in cases of phlegmon, arthritis, and inflammation of the fingers, and he has obtained such decided effects by this treatment, that he has adopted it in all cases where it could be practiced. Although this method is of course only applicable in certain

cases, yet it is found that compression will not only quickly cure incipient inflammations, but even when the inflammatory process has made some progress, it may be arrested by a patient and persevering use of the same means. This plan of digital compression had been already proposed theoretically by some authors, but it was never employed by any of them, and it had fallen into oblivion. They have also proposed the use of instruments for the purpose of compressing the artery, without at the same time interrupting the venous circulation, but M. Vanzetti recommends that manual compression should alone be used, as being preferable to all others. Although this method of compression presents some difficulties in its performance, it is only because one or two persons are sometimes required to apply it exactly; the surgeon ought, in urgent cases, to make compression himself for two or three hours; this period will sometimes be sufficient to diminish sensibly the acutenesss of the inflammation, and thus to save a seriously diseased limb. Most frequently the patient can himself perform the compression of the femoral, or the humeral, or even of the subclavian artery in cases of very considerable swelling of the arm; he will be able very easily to continue the compression for eight or ten minutes, and then to leave off and recommence after he has rested. These short intervals present no obstacle to the desired effect.

M. Vanzetti records two cases treated by digital compression in the hospital at Padua. The first was a severe case of phlegmonous erysipelas of the left arm, and the second was one of acute arthritis of the right wrist. In the first case the limb was enormously swollen, and a thread was placed around it to measure any change in its dimensions; digital compression was exercised on the subclavian artery for fifteen continuous hours, after which, there was decided relief of the disease and diminution of the swelling, and although there was subsequently extensive suppuration, yet the patient recovered completely. M. Vanzetti thinks that suppuration might have been prevented if the patient had come earlier under treatment, as he was advised to do. The second case was one of arthritis, and was treated by compression of the brachial artery, which was performed sometimes by the pupils of the hospital, and sometimes by convalescent patients, properly instructed. The pain and swelling of the joint were distinctly relieved, and the patient entirely recovered without the adoption of any other treatment whatever. In this case the patient was able to distinguish whether the compression was properly or improperly practiced by the amount of relief which he experienced.

5. *On the Opiate Treatment of Rheumatic Fever.* By R. W. O'Donovan, Belturbet. (Dublin Quarterly Journal of Medical Science.)

The opiate treatment of rheumatic fever, though not new in medical practice, is shown by Mr. O'Donovan to have been very successful in seven cases which he records. The opium was the chief remedy employed in all the cases, a little castor oil being sometimes given to obviate constipation, and in some instances soothing liniments were applied to the joints, and quina was administered internally. Mr. O'Donovan commenced with a full dose of opium—namely, two grains every second or third hour, till the pain was relieved and the patient slept, or at least until he felt easy and composed; and headache was never observed. The opium treatment shortens the duration of the disease, as was proved by one of the cases in which the disease had lasted for thirteen weeks without mitigation, but in which, under the use of opium, relief was obtained in two days. In another case, the opium was commenced on the sixth day of the illness, and convalescence was established in four days afterwards. Another case was convalescent in four days, and a fourth was relieved in seven days. Mr. O'Donovan also found that the excessive sweating, characteristic of the disease, yielded to opium.

6. *On the Changes of Type in Fever.* By Dr. Kennedy of Dublin.

The following are the conclusions of Dr. Kennedy, in a long and interesting paper on the treatment of fever, published in the Edinburgh Medical Journal for January 1859:

1. That both animal and vegetable life is subject at times to epidemic influences, which at one period raise and another depress the standard of health.

2. That the older writers, aware of these dangers, altered their treatment accordingly.

3. That pneumonia, like fever, alters its type at certain times; being now sthenic, and again asthenic; and that both affections are liable to spontaneous hemorrhages, which are usually most salutary.

4. That no six cases of the same disease are identical, in either their progress or their termination.

5. That the very same inflammations may, and do produce different products, at different times.

6. That nature's cure is effected, if at all, by lowering the system; in other words, by antiphlogistic measures.

7. That in most cases where lymph and pus are poured out, nature does not, by herself, effect a cure: as exemplified in cases either of pneumonia or pleuritic effusion.

8. That statistics cannot guide us in the treatment of disease.

9. That every case must be treated on its own merits.

10. That by means of general bleeding, besides other effects, absorption is powerfully influenced.

11. That local bleeding is a powerful aid in curing disease.

12. That mercury is a most valuable agent in the treatment of some inflammations, and will succeed where other means fail.

13. That certain inflammations, including particular kinds of pneumonia, are very happily treated by wine alone.

14. That local bleeding may be used with very good effects, at a time when wine is also given.

15. That no single plan can possibly meet the ever-varying shades of disease—pneumonia amongst the rest.

16. That it is essential, in the treatment of all acute affections, to pay attention to the type of disease for the time being.

7. *On Rheumatism of the Diaphragm.* By Dr. CHENEVIER.

After reporting several cases of this disease, the author gives the following description of it:

The disease commences with a sudden pain at the points of attachment of the diaphragm, which produces a feeling of constriction at the base of the thorax, but is not augmented on pressure. Deep inspirations are impossible, and respiration is carried on only by the superior ribs. Percussion is normal, and auscultation does not reveal any change in the respiratory murmur, which is only somewhat weaker at the base of the thorax; there is no cough; sometimes, however, a painful hiccough. The abdominal organs offer no symptom of disease. The attack lasts from one to eight hours, and disappears then without leaving any trace. The prognosis is favorable. Rheumatism of the diaphragm is easily distinguished from inflammatory diseases of the

lungs by the absence of the symptoms of the latter. It could only be mistaken for a neuralgic affection of neighboring organs, as, for instance, intercostal neuralgia; but it is sufficiently distinguished from it by the pain being felt particularly in the three characteristic points, while in the neuralgia just mentioned it is confined to one side. From angina pectoris it is distinguished by the peculiarity that the pain proceeds in this malady from the sternum and radiates on one side to the arm. In nervous asthma, which also commences with sudden difficulty of breathing, the peculiar feeling of constriction as well as the confinement of the respiratory movements to the superior ribs, is not noticed; the two latter symptoms are pathognomonic of rheumatism of the diaphragm.

The treatment of the disease consists in the application of cups, mustard poultices, anodyne embrocations, and chloroform; if it is obstinate, the endermatic application of morphia will be useful.—*Gazette des Hôpitaux*, 1858—*N. A. Med. Chir. Review.*

8. *Observations on Pneumonia.* By Dr. Metzger.

From forty-eight cases of pneumonia which he had observed in the clinic of Professor Pfeufer, in Munich, Dr. Metzger draws the following conclusions:

1. There are certain signs observable in the course of pneumonia, which constantly and on a certain day introduce a favorable crisis of the disease; herpes labialis is one of these signs.

2. A constant symptom also is the diminution of the chlorides in the urine, observed during the continuance of the fever and exudation, and the increase of the same during the process of resorption.

3. The secretion of urea, which is insignificant during the first days of the disease, reaches its maximum on the sixth day.

4. The diminution of temperature is preliminary to the decrease in the frequency of the pulse.

5. The intermittent character of the pulse indicates that the pulse is about to become slower, particularly if the temperature is at the same time diminishing; the presence of other bad symptoms may, however, render an unfavorable interpretation of this sign necessary.

6. During convalescence of pneumonia it is constantly

observed, that the pulse becomes slower even underneath its normal standard.

7. Some of the observed cases show the possibility that double pneumonia may originate from morbid changes in the central organs of the nervous system.—*Zeitschrift für Rationelle Medizin—N. A. Med. Chir. Rev.*

9. *Ligature of the Extremities in Intermittent Fever.* By Drs. J. De Brauw and H. J. Brœrs.

According to Drs. De Brauw and Brœrs, the ligature of the extremities is a measure which has been already employed by ancient physicians to aid in the treatment of intermittent fever, but has unjustly nearly fallen into oblivion. Already Pinius (Hist. Nat. xxviii, 6), knew this antiperiodic, as Pittschaft (Hufeland's Journ. li. 3, p. 47, 48) states, and in Van Swieten's Commentaries to Boerhaave's Aphorisms the "levis brevisque compressio venarum in artubus" is strongly recommended as a means to relieve the burning heat of fever. Dr. V. Hildenbrand, however, declares the remedy, in his Institutiones Practico-Medicæ, to be unreliable, and in many respects unsafe, and recommends caution in the use of it. Jos. Frank (Prax. Med. Univ. Præcepta) speaks of it in a very superficial manner, like many other, particularly more recent authors. One of the most enthusiastic commenders of this method is George Kellie (Duncan's Medical Commentaries, vol. xix), who, during the siege of Willemstad by the French army, in 1793, cured many cases of intermittent fever (which had resisted the use of quinine) completely, by compression of the extremities. Upon his recommendation several physicians in England—for instance, Veitch and Wallich, (Mediz. Nationalzeitung, July 1798), and in the Netherlands (Agemene Vaderl. Lettervefningen, 1808, 5),—tried his method with signal success. Of the more recent communications on this subject, that of Prof. Chaldni (Hufeland's Journal, xlii, p. 133), is worth particular attention. This celebrated savant being attacked in 1813 by an obstinate intermittent fever, used the remedy with much advantage. He describes it as quite innocuous, and explains its curative influence by the supposition, that by the ligature of the extremities the return of blood to the heart, and to the centres in general, is hindered or partially suspended, and that the full development of one of the principal symptoms, the chill, being thus interfered with, an

interruption and disturbance of the whole type of fever takes place.

This method belongs moreover to one of the oldest popular remedies used in Russia, England and France. In Canstatt's Jahresbericht (Jaborg. 1848, p. 113), the cure of a quartan by application of Junod's boot is mentioned, a fact which seems to be intimately connected with the subject in question. According to Jolly, (Dict. de Méd. et de Chir. tome xi, part i, p. 363), who gives a detailed account of the ligatures circularies des membres, the ligature should be applied to the four extremities at the same time, but in such a manner that only the circulation in the superficial vessels is suspended. Martinet, Robinau, Récamier, and Husson, kept up the compression for not longer than twenty-five to fifty minutes, and commenced with it in the cold stage. Jolly recommends taking off the ligatures one by one, at intervals of several minutes, as by the simultaneous removal of the same too much blood would be at once introduced into the circulation, which might be attended with evil consequences.

The most complete information on the subject of his investigation the author found in a dissertation of R. v. Bærle: "De valde multiplici febrium intermittentium medicatione speciatim de membrorum majorum circumstrictione tantaminibus in nosocomio academico explorata," Utrecht, 1809. In this treatise the ligature of the extremities is thoroughly illustrated by the report of seven cases, and highly recommended. V. Bærle commenced the treatment with the administration of a gentle purgative; the patients were kept in bed, and subjected to a rigid diet during the paroxysm; shortly before the commencement of the cold stage, the thighs and upper arms were encircled by ligatures exercising a moderate pressure, which were removed in from six to fifteen minutes, or later, according to the effect they produced; after Wallich's example he forbade warm drinks during the cold stage, but recommended cold drinks in the hot stage. From observations of this kind the author draws the following conclusions: The ligature of the extremities is a safe and powerful means of assistance in the treatment of intermittent fever; it is not only an adjuvant to other anti-periodics, but also a febrifuge by itself. It cures the febris intermittens simplex and duplex, as well as the quotidiana. In regard to the quartana no experience has been made. The ligatures must be allowed to remain until the hot stage begins; a longer application does not lessen their effect. The method seems to owe its curative property to

the disturbance of the usual course of the fever (Chladni). Sometimes the paroxysm is transferred under this treatment from the third day to the second, but generally so that the tertian type is not interrupted, or that a febris duplex is developed. The compression of the extremities is always followed by some increase of the heat and perspiration, the signs of an energetic reaction. After repeated use of this method the fever gradually subsides. Contra-indications to it never existed, but may be easily inferred from an examination of the modus operandi of the remedy.

Dr. De Brauw generally applied compression to two extremities only, but considers the ligature of all four far more efficacious in obstinate cases, and recommends the method as being capable in some cases to substitute the use of quinine.

In cases of relapse of intermittent fever, in which the patients complain of that characteristic pain in the lumbar region (fifth lumbar vertebra), against which cups are used without effect, Brœrs recommends the application of the galvanic current to the mentioned spot as a highly serviceable though occasionally inefficient means. After the second or third application of this remedy the cachectic appearance, as well as the depressed feelings of the patients, underwent a favorable change. Relapses of the fever, consequent upon a return of the patient into the malarious district, yielded quickly to this mode of treatment, even when quinine was administered without success.—*Nederland. Tijdschr., Medizinische Neuigkeiten—N. A. Med. Chir. Rev.*

SURGICAL PATHOLOGY AND OPERATIONS.

1. *On the Reproduction of Bones.* By Dr. Toland. (Charleston Med. Journal and Review.)

In this paper Dr. Toland endeavors to show that entire bones and joints may be restored by proper management.

"In 1853 (says Dr. Toland), when I took charge of some wards in the State marine hospital, I found in the fourth ward, No. 12, a Mexican who had long been suffering from caries of the inferior maxillary bone. Finding the bone destroyed anteriorly, and the remainder diseased, incisions

were made on the inside of the mouth, and the entire submaxillary bone removed. In a few weeks bony matter was deposited, and the motion of the jaw perfect. He left the hospital but little disfigured, and if the teeth had not been lost, the reproduced jaw would have been as perfect as the original. Dr. Reilly was then the resident physician, assisted in the operation, and witnessed the result.

I was much gratified to find, in the July number of the 'Charleston Medical Journal,' a case reported in the 'Moniteur des Hôpitaux,' by Maisonneuve, of a similar character: 'The entire lower jaw was excised for an enormous fibrous tumor developed upon and involving the bone. In extracting the jaw, the periosteum was left in situ. A rapid cure was obtained—nearly the entire incision healing by the first intention. So little deformity results, that it requires a practiced eye to detect the absence of this important bone. The movements of the mouth are all preserved; the tongue has recovered all its movements; speech is clear and distinct; swallowing is effected with great facility, and one month after the operation a dense substance was forming from the periosteum, which was expected in time to form a useful bony mass.'

In 1853 a millwright, from Contra Costa, was admitted into the State marine hospital with a comminuted fracture of the great toe of the right foot. Finding, at the expiration of a month, that the bones were diseased, and believing, from the result of the treatment in the former case, that the bones would be restored, instead of amputating the toe, they were removed. In four weeks they were reproduced, and the toe was as useful as before the injury—although I was not aware that the articulations were restored, supposing that a ligamentous substance supplied, imperfectly, the place of joints. Dr. Reilly assisted in this operation.

In June 1856 James Clark, who lives near the corner of Filbert and Battery streets, consulted me respecting the propriety of having the middle finger of the right hand amputated. He had been under the care of a physician, who thought its removal necessary.

The first and only half of the second phalanges being diseased, and believing they would be restored, I advised their removal; for if the first joint was even destroyed, the finger would still be useful. Assisted by Mr. Lindop, an incision was made from near the junction of the second and third phalanges, and extended under the nail to same point on the opposite side. The soft parts were then dissected from the

bones, and the second phalanx divided about a quarter of an inch anterior to the joint. The wound was then closed by the interrupted suture, and the soft parts retained in a proper position by pasteboard splints and a bandage.

In four weeks the bones were not only restored, but a joint had also been formed, the motion of which was as perfect as the original. Being a porter, and having used the finger before the ligaments were sufficiently strong to resist the force applied, there is a slight lateral curvature; but, in every other respect, the finger is as useful and perfect as the one on the other hand.

Mr. M'Gowan, employed at Newland's stable, on California street, was advised in June 1856, to have the fore finger of the right hand removed at the second joint, and he came to my office for the purpose of complying with instructions. Instead of amputating the finger, the first and second phalanges were removed, and then treated as the preceding case.

In a few days he resumed his occupation, and I did not see him for several months. His finger has recently been examined: the second joint is perfect, and the entire phalanx restored. The first phalanx, in consequence of the soft parts being allowed to contract, is shorter than the original—although a joint exists, and the finger is as strong and useful as before the operation.

Mr. Shannon, a cooper, who resides at No. 6, Jackson street, had a whitlow on the right fore finger, involving only the first phalanx, which was removed by a lateral incision. He resumed his business in a few days after the operation, and, although not subjected to the proper treatment, the bone was reproduced, and the motion of the joint is as perfect and the finger as strong and useful as before.

Mr. Collins, who lives in this city, on Stevenson street, between First and Second, had suffered for three months from a whitlow involving the whole of the right thumb. Before he became my patient, free incisions were made without affording relief. The thumb was enormously enlarged. The first and second phalanges were diseased, and the flexor tendon near the extremity destroyed.

Notwithstanding its excessively diseased condition, I determined to remove the bones, although confident that the thumb would not be as useful and perfect as it would have been if he had received proper attention at an earlier period.

On the 1st of April 1857, the first and second phalanges were removed by a single incision, and the wound closed by the interrupted suture. Paste-board splints and a bandage were then applied, and continued until cured.

In six weeks the soft parts were healthy, and the bones and joints restored. Notwithstanding the destruction of a portion of the tendon, he has control even over the first joint, and the strength and motion of the thumb are daily increasing, which would not be the case if the tendon had not been reproduced.

Mr. Littlejohn, who resides at Redford city, had suffered greatly for several weeks from a similar difficulty. He was operated upon on the 18th of April. An incision was made on the external side of the thumb, and both bones removed. This case progressed much more rapidly than that of Collins'—and in four weeks the bones and joints were reproduced. The thumb is now as strong, and the motion as perfect, as before the occurrence of the difficulty.

Mr. Blaisdell, who now resides in San Francisco, had the great toe of the left foot injured by a stick of timber. When examined, I found the second phalanx carious, although the first was healthy.

In December 1857 an incision was made upon the external side, extending from the articulation with the metatarsal bone to the extremity; both phalanges were removed, which was unnecessary, and the wound closed as usual. In four weeks from the time the operation was performed he could wear a boot without inconvenience. Both bones, with joints, have been restored, although the first phalanx was not diseased, which can only be accounted for by supposing that the periosteum detached from the second phalanx furnished a sufficiency of body matter for the restoration of both.

Elizabeth Gallman, who lives with Mr. Grey, North Beach, had suffered for three weeks from a whitlow of the right middle finger. The first phalanx was removed in presence of Dr. Raymond, and the finger examined in a few days by Drs. Sheldon and Hewer, which, although slightly enlarged, is as useful as before the operation, and the motion of the joint as perfect.

Mrs. Cunningham had a needle broken in the first joint of the right fore finger, which produced caries of the first and half of the second phalanges. On the 1st of September 1857 they were removed in the presence of Dr. Hewer. In five weeks she could use a needle with facility; and now, with the exception of a slight diminution in the length, the finger is perfect. She lives on Yerba Buena street, and has recently been examined by Drs. Fitch and D. L. D. Sheldon.

Recently, in the case of Mrs. Stone, of Sacramento, one-third of the second phalanx and two-thirds of the third were diseased, and the remainder healthy. The diseased bones, including the second joint, were removed in presence of

Drs. Fitch and Hewer. Fifteen days have elapsed since the operation was performed, and the case is progressing favorably.

Believing that the same course of treatment would be found equally successful when longer bones are implicated, during the summer and fall of 1856, assisted by Dr. Lind, the resident physician of the U. S. marine hospital, more than half of the clavicle, the os calcis, and portions of the os femoris and tibia, were removed with a similar result; but being unable—as they were sailors—to specify their place of residence, their cases will not be given in detail, although they were as successful as any that were previously or have since been subjected to the same treatment.

On the 3d of December 1857, James Allen, a gentleman from Crescent city, was examined, who had received a gunshot wound ten months before. The ball passed through the wrist, and he had suffered excessively. Finding all the carpal bones and those of the wrist, with which they were connected, extensively diseased, I determined to remove them, it being the only course of treatment which could save the hand. Assisted by Drs. Fitch and Hewer, an incision was made in the direction of the metacarpal bone of the fore finger, which was removed, with half of the metacarpal bones of the other fingers, as well as the trapezoides, magnum, unciforme, and pisiforme. But one incision was made in the soft parts, and great care taken not to divide either the tendons or large blood vessels. He has suffered but little since the operation. The constitutional disturbance is considerable; the hand is not swollen; the wound presents a healthy appearance, and no doubt is now entertained of saving the hand, and restoring it to usefulness.

Although I have been engaged in the investigation of this subject for several years, even my personal friends were not apprised of the fact, until a sufficient number of cases could be presented to remove all doubt upon the subject. I am now satisfied that the proper course has been pursued, for the above cases not only prove the restoration of bone, but also that articulations sufficiently perfect have been and will invariably be reproduced.

2. *Six Cases of Cataract in one Family.* By Mr. STREATHFELD. (Ophthalmic Hospital Reports.)

On the 13th of February 1858, I had an opportunity of seeing a family of the name of F——, living near Bury St. Edmund's, of which five children and their mother had

double cataracts. It did not appear that any of the paternal or maternal relatives had been similarly affected. The grand mother, who was present, first observed the deficiency of vision, and the defect in the eyes of her child, the mother, when she was a year and a half old, and in the second generation, at various ages, later in life, according to the seniority of the five children; thus the eldest for six years, and the youngest for a year and a half, are said to have had good vision. There was not in either of the cases any history of short-sightedness before the defect was evinced, and after this time, in a month to six weeks, in either of the cases, the child became so blind as only to distinguish light objects. The six patients have all gray irides, and hair of a very light brown—in the younger children almost colorless. The mother has two sisters and a brother who have brown irides and good vision. All her children much resemble their mother in appearance, and all of the family, including the father (who is a laborer), are of a healthy, sanguine disposition, and have no other defects perceptible. In neither of the patients are there any corneal opacities, or unsteady movements of the eyes.

THE MOTHER:

Ellen F——, æt. 33, has been incompletely operated on; the right pupil is occupied by remains of lens, and a wide margin of yellowish, earthy looking deposit; the left is in the same state, but the outer half of the pupil is adherent to the lens capsule. With this eye, which is slightly turned in, she can only distinguish a light.

HER CHILDREN:

1. Laura, æt. 16; her sight failed her when she was six years old; has been operated on—remains of lens capsule.
2. *A boy, who died at the age of five years without any known defect of the eyes or of vision.*
3. William, æt. 11; has been operated on—remains of lens capsule.
4. James, æt. 9.
5. *Eliza, æt. 7; reads small print with facility, at an average focus; the eyes examined externally, and with the ophthalmoscope, showed no defect whatever.*
6. Henry, æt. 5.
7. Ellen, æt. 3.
8. *Mary, æt. 8 months, intelligent; the eyes, examined externally and with the ophthalmoscope, showed no defect whatever.*

Of these children, 5 and 8 were as much like the mother as the others were; and of the patients 4, 6 and 7 (those which had not been operated on), the cataracts were all of a gray opalescent appearance, most confirmed in the eldest, and least in the youngest. In the case No. 7, the chief opacity was at the lower part of each lens, and left at the upper part a definite crescent, of the less opaque portion, largest in the right eye, which was said to have been latest affected. In No. 6 the cataracts were equal, not striated, and the general opacity was as great as that of the lower part of the lenses in the last-mentioned case, and greatest at the central part of each lens. In No. 4 the lenses were centrally most opaque, as in the two other cases. In this they were irregularly striated, and an additional peripheral opacity existed posteriorly in the right lens, and in the left posteriorly, and extending in front as a defined, superficial margin, to the deeper striated portion.

3. *The late Dr. Marshall Hall's Proposition for a New Operation of Lithotomy.*

To THE EDITOR OF THE LANCET—SIR—In the "foreign department" of your valuable journal I noticed a proposition made by M. Valette of Lyons, for a new operation for the removal of vesical calculi, which he called the hypogastric operation; and he narrated several cases in which it had been successfully performed by him. Whatever may be the ultimate influence of this proposition of M. Valette on the present practice, I feel that an interest is now attached to the subject from the fact that my friend the late Dr. Marshall Hall held, in the month of June 1855, as nearly as may be the same views as those lately advanced by M. Valette. A copy of the lettre cachetée, which Dr. Hall told me had been deposited in the institute of France, has been kindly procured for me by Mrs. M. Hall from M. Flourens of Paris, and I enclose it to you. I feel sure you will agree with me, that the document is of sufficient interest to be published in your journal.

I am, sir, your ob't serv't,

FREDERICK WILDBORE, F. R. C. S.

Brighton, Dec. 1858.

"*Sealed Document.*

I propose to replace lithotomy and lithority by lithotony.

1. Before this operation is performed, the patient should be made to drink copiously.

2. A catheter, pierced with one hole only, should be introduced, and so placed as constantly to leave in the bladder such a quantity of urine as seems desirable.

3. A canula, supplied with a sharp point, should be thrust into the bladder above the os pubis and below the peritoneum.

4. The point is then to be withdrawn, and the canula left, closed up by a little stop-cock, until a fistula, thoroughly surrounded by lymph, be well established.

5. This fistula should then be properly dilated until the calculus can be extracted.

6. The fistula is afterwards allowed gradually to contract on an india-rubber tube distended with air, of a proper size, which is gradually to diminish in calibre by the air being made to escape.

In the whole course of this operation no texture is divided; no blood flows; and the nervous system experiences no shock. A measure, new in surgery, is thus employed, viz. dilatation instead of division of textures. This measure, when well conducted, is not dangerous to the patient, and offers no difficulty to the operator. It may also be applied in other circumstances—such as hydropericardium, empyema, and to replace tracheotomy, &c. &c.

(Signed) MARSHALL HALL."

Certified a true copy.

The life Secretary for Natural Sciences,

FLOURENS,
Imperial Institute of France.

4. *On the Treatment of Hernia by Electricity.* By Dr. CLEMENS. (Deutsche Klinik.)

This paper is the first of a series the author intends publishing upon the therapeutical application of electricity—a subject that has engaged his attention for some years past. He first employed this agent in the treatment of inguinal

hernia in 1850, and has frequently had recourse to it since then. The hernia being reduced, and the patient placed in the semi-recumbent position, the ball of the conductor is carried as far into the hernial canal as possible, and the application of the electricity continued during five minutes, its power being increased day by day. After a few séances the mouth of the ring becomes diminished in size, the finger is introduced with more difficulty, and the hernia will not descend so easily as heretofore. The electricity, too, exerts a very beneficial effect upon the peristaltic intestinal motions, augmenting and regulating these, and thus preventing the same relaxed portion of intestine from always lying opposite the hernial aperture. A state of obstinate constipation becomes changed for one of regular action, and many old disordered conditions of the abdominal cavity become relieved. When the hernia has been recently produced, no means act with so much certainty and rapidity; and a case is referred to of a young man who acquired double inguinal hernia during an effort to raise a heavy burden, and which was completely cured after twenty séances, although these were not commenced until a week after the accident. Under its agency recent hernia is rapidly returned; but the author has not yet tried it in a case of complete incarceration. Among the 27 cases in which it has been resorted to, none have manifested the slightest ill consequences. Dr. Clemens prefers static electricity to galvanism, and administers it by means of the Leyden phial.

Another application of electricity by the author consists in a galvanic hernia truss, for a description of the construction of which we must refer to his paper. By its agency a feeble but constant galvanic stream is kept applied to the ring, and large hernias soon become easily retained which before had resisted the largest trusses and the strongest springs. Of late the author has constructed a pile of silver and copper coins, and the effects of so small an apparatus have often surprised him.

5. *On the Treatment of Sprain by Friction and Shampooing.* By M. Girard. (Moniteur des Hôpitaux.)

In this paper, laid before the "Académie de Médecine," M. Girard states that his attention was first directed to the plan of treatment he describes by the manipulations of an empiric. So successful were these in a bad case of sprain, that he determined to investigate the subject, and as the

result of numerous trials, he now proposes what he believes to be a very effectual and a rapid procedure, for the treatment of what too often proves a very tedious and serious affection.

No matter what the severity of the sprain may be, its treatment should be commenced by the gentlest friction, the points of the fingers scarcely touching the skin. After practicing such frictions from below upwards for from ten to twenty minutes, it will be almost always found that a certain amount of pressure can be borne, and this is to be increased or diminished according to the sensations of the patient.

It is very rare that we can proceed in this manner for half an hour without the patient declaring that his pain is notably relieved. Arrived at this point, when the patient can bear the weight of the hand, we proceed to the shampooing. This is performed not only with the fingers (which, kept close together during the frictions, are now to be separated, so as to pass into the various sinuosities of the part), but also with the palm of the hand, so as to embrace the entire joint and surrounding parts. The hand in both this and the former part of the procedure should be smeared with some fatty body, such as almond oil, so as to render its movements more soft and easy. The shampooing must be performed in the gentlest manner, without shocks, directed from below upwards, and acting not only on the painful points, but upon all those that are tumefied.

If pain is excited by an attempt at moving the joint, we must return to shampooing until new trials have proved that flexion and extension cease to excite painful sensations. Such movements would be very painful, or even dangerous, if performed at an early stage of the treatment. They do not, however, constitute any part of the treatment itself, and are only resorted to as a means of appreciating the results derived from shampooing. In several cases in which the cure had been considered as complete, the pains have returned next day, accompanied by more or less febrile reaction. A single re-application of the shampooing has sufficed to dissipate them, and in most cases, twenty-four hours' rest and the application of a bandage moistened with spirit of camphor, has sufficed for this. This bandage, indeed, is useful in all cases, and should be worn for two or three days.

This procedure is applicable to both old and recent sprains, and even when there has been present also a fracture of the fibula, shampooing has effected a remarkable diminution of

pain and swelling, enabling the surgeon sooner to ascertain the exact nature of the case. Several cases of severe, recent and old sprains are referred to, in which two or three hours of this shampooing process have effected an entire cure.

6. *On a new Elastic Bandage in Fracture of the Jaw.* By Professor Bouisson. (Bulletin Général de Thérapeutique.)

In this paper Prof. Bouisson of Montpellier, describes a new form of bandage, which he has found very useful in the treatment of fracture of the lower jaw, and which being constructed of elastic material, allows of the combination of solidity with the amount of mobility requisite for carrying on mastication, insalivation, deglutition, and speaking. The point of support is derived from the cranium, by means of an open skull-cap, constructed of broad strips of leather or jean. One of these bands passing in front of the forehead, encircles the cranium below, and another passes along its antero-posterior diameter above, being joined to the first at its two extremities, and by two transverse bands. Next, a sling, composed partly of leather and partly of caoutchouc, is nicely padded and adapted to the chin, and is then attached on each side by means of two leather straps and buckles, to the band of the skull-cap, a horizontal strap being attached behind, opposite the mastoid process, and a vertical strap in front, opposite the coronoid process. The amount of support may be easily regulated by means of the buckles, and its lightness, suppleness, and ease of application render the apparatus not only an effectual, but a comfortable means of adjustment. It secures effectual adaptation of parts, and with modifications may serve also in compound and comminuted fracture, as also in a variety of other accidents and diseases of the jaw.

7. *On the Chloride of Iron.* By M. Delan.

In a communication to the French academy, detailing the results of his experiments, D. says:

1. The chloride of iron is not dangerous either in its internal or external applications.

2. It is the most powerful of all known hæmostatics.

3. It modifies living tissue, and, in virtue of this action, is specially applicable to the treatment of blennorrhea, leucorrhea, bronchial catarrh, etc.

4. It is anti-syphilitic, inasmuch as it heals chancres and venereal ulcerations of the vagina and uterus, without any of those dangerous results which sometimes follow the use of nitrate of silver, iodine, mercury, and its combinations.

5. It is a powerful remedy in scrofula.—*Gaz. Med.—Prag. Vtljschft.*

8. *Formulæ for the use of Chloride of Iron.* By M. Vriente.

1. As a local or external hæmostatic, 3 to 5 parts chloride of iron to 100 parts of distilled water. Lint soaked in this mixture is to be applied with more or less pressure on the seat of the hemorrhage.

2. As an internal hæmostatic, 1 part of chloride of iron to 500 of distilled water, sweetened to taste. One tablespoonful to be given every hour, or oftener if necessary. This formula suffices to check the fiercest hemorrhage within 24 hours. The same formula, without sugar, forms a useful uterine injection or astringent lavement in cholera or colliquative diarrhœa.

3. A hæmostatic and resolvent ointment is composed of 4 to 15 parts of chloride of iron to 30 of axunge. With this V. says he has cured an indolent ulcer of twelve years' standing, a tumor albus of four years' standing, several cases of rheumatism and arthritis, and many polypous, warty, and condylomatous growth about the anus.

Journ. de Med. Jnin. Prag. Vtljschft.

9. *Collodion in Umbilical Hernia.* By De Mahy.

His own child, six weeks old, after a violent fit of crying, was found affected with an umbilical hernia. M. painted the swelling with collodion; and so soon as this had dried, and so drawn the skin together, the hernia disappeared and did not return. The swelling was the size of a hazelnut, the part painted was that of a crown-piece. The collodion must be pure; no previous reduction of the hernia is necessary; should the circumference become red and wrinkled, a little glycerine rubbed round the edge will dissolve it and set the constriction free. The layer of collodion falls off after from seven to eight days, and may then be renewed. With moderate care on the part of the nurse, the child may be bathed as usual. The French physician Pradier has also successfully employed this method in the case of a child one month old.—*Gaz. Hebd. Prag. Vtljschft.*

EDITORIAL AND MISCELLANEOUS.

The Whitney Case.

THE medical profession of New York, and indeed the public generally, have been in a state of very considerable excitement for the past few weeks, caused by the sudden death of Mr. S. S. Whitney, the only son of a well known millionaire, under peculiar circumstances. The newspaper press of that city being in want, just then, of any thing likely to interest and excite their readers, seized upon the opportunity afforded them of making some good paragraphs; and inasmuch as the Whitneys had money—the one thing needful in Gotham—and the causes of death admitting of very considerable difference of opinion, the whole affair has gained a notoriety, reflecting but little credit upon any of the parties concerned. But for the poor man's *money*, he would have gone to a quiet and unnoticed grave; the doctors would have never fought over his diseased carcass, and the public would have been ignorant of his dissipations and follies. But a patient worth a *million* cannot be parted with so easily; and thus the jealousies and squabbles of the profession have been laid before the public.

Mr. Whitney, a man of irregular habits, weakly constitution and capricious temper, having broken himself down, as fast young men do frequently, becomes a confirmed invalid; and as there was phthisis in the family, he presently finds his way to Dr. HORACE GREEN.

This gentlemen has been for years levying a tribute upon that large class of sufferers, who are marching along the slow but certain road, which begins with consumption and ends with the grave. He is the gentleman who revived an old practice, which had never received much attention, of attempting to cure affections of the throat by the local cau-

tery; and as the idea has much merit in it, a reputation was soon made with a certain class of patients. Clergymen, especially, said to have lost their voices from over-work, flocked to him in numbers, with purses filled by fond congregations; and as these patients generally had *follicular pharyngitis*, the result of good dinners, cigars and lazy habits, Dr. Green had an easy task before him. A professor in a medical school speaking an hour every day, or a lawyer talking all the time, rarely complains of that affection called *clergyman's sore throat;* and yet they use their organs of voice much more constantly. The disease is often a *secondary* affection, beginning with the stomach—to be cured by traveling, change of diet, *and the local treatment.*

Dr. Green, however, made a good thing out of this practice, and deserves credit, in our opinion, for calling attention to a method of treatment not without value. In his next movement in the same direction, there was also much to praise. He proposed to introduce caustic solutions through the larynx into the trachea, in cases of croup and laryngitis, both acute and chronic; and while some may doubt whether he really does pass his *probang* between the vocal chords as often as is claimed for him, yet certainly the fluid does pass, and is productive of benefit.

The next step, however, was still more daring. Dr. Green proposes to *catheterize the trachea*, and inject the solution of caustic into cavities in the lungs; and this startling proposition has drawn to his consultation rooms many patients, who, having death before their eyes, desperately resort to any one who promises a cure.

Mr. Whitney seems to have been one of these persons. He goes to Dr. Green, knowing what his treatment was; submits to all of his applications; and one day after his visit, he goes home, declares that Dr. Green has killed him; sends for Drs. Mott and Beales; and after a week of suffering with dyspnœa, accompanied with emphysema of the neck, face and thorax, he at last succumbs. Dr. Green is not present during this time, having been discharged with ig-

nominy, and the two gentlemen who succeeded him did not insist on his presence. Even at the post-mortem he was not permitted to have a hearing; and the whole city of New York conclude that an abscess formed in the pharynx was made by his caustic, and a cavity in the lung, which had opened through the pleuræ into the cellular tissue, and had caused the emphysema, was a puncture with the point of the instrument.

Dr. Green and his friends rally to the rescue, and the affair is brought before the *Academy of medicine.* Then comes a grand set-to. Every body says something; gives an opinion; proposes a theory. Mr. Whitney is killed in a half dozen ways. Charges are made and denied; and at last, exhausted of their venom, all parties agree to pass a resolution *unanimously* declaring that Whitney died because his time had come.

What a lesson can be drawn from this whole controversy, showing the absolute necessity for the most stringent and inviolable rules to govern the profession in their intercourse with each other.

Dr. Green was either a charlatan or not. If he deceived and pillaged the public, and risked wantonly the lives of his patients, he ought to have been cut by the profession, turned out of the academy, and not regarded as a physician.

But if Dr. Green *was* held in full fellowship, he had a right to be *defended* by his brethren. No one ought to have taken charge of Whitney without his knowledge; and he certainly had the indefeasible right, in common justice, to have witnessed the autopsy.

Why should Whitney or his friends complain of a practice to which he knowingly resorted? Dr. Green makes no secret of his procedures; and under the circumstances, it was entirely wrong in any physician to take charge of the case—still worse, to express opinions derogatory to the character of an absent brother. If any other course is allowed, there will be no end to Whitney cases. Every death will be brought up against us, and post-mortems, controversies and

suits for malpractice will fill up our time. If a man is a quack, and a credulous public choose to patronize him, let them die on *his* hands. If he is honest, candid, and fairly endeavors to administer the benefit of the art to the sick, he can do no more, and his brethren should stand by him, and shield him from censure.

Draw the lines which divide the true physician from the unworthy pretender, as strongly as possible. Require every member to submit to the rules and discipline necessary for self-protection, and sternly carry these principles into effect. It is the only way we can use to keep our profession right in the public estimation. It is the only way to get rid of the dishonest practitioner. Any other course leads to disgrace and confusion, and our honorable calling is made the laughing stock of the world.

VARIETIES.

Medical News and Items.

PRODUCTION OF BONE.—The Paris correspondent of the Med. Times and Gazette (No. for Jan. 1, 1859) writes:

At the last meeting of the Académie des Sciences, held on the 6th of the present month, Dr. Olivier read an exceedingly interesting and curious paper, in which he endeavored to throw quite a new light on the production of bone. The conclusions at which he arrived, if supported by future experimentalists, will not fail to produce a deep impression on the minds of physiologists; while, at the same time, they will tend to enlarge and extend the system of anaplastie, as applied to surgery. The experiments of Dr. Olivier were conducted entirely on rabbits of different ages, and different stages of growth, and were divided by him into three series. In the first series, long slips of periosteum were detached from the tibia throughout its entire length, one of the extremities only being left attached to the bone by a peduncle; these slips of periosteum were then pushed among the muscles and twisted around them in a variety of ways. In the course of a certain time osseous matter was produced, assuming the shapes of the twisted and contorted membrane. In the second series of experiments the slips of periosteum which had been treated in the same manner as in the first series, were, three or four days after the operation, completely detached from the bone, and, notwithstanding their isolation from their original source of

life, the periosteum still continued to produce bone. In the third series of experiments the periosteal covering was completely and at once separated from the bone, and immediately inserted under the skin of the shoulder and back, and still, strange to say, the periosteum produced bone. Dr. Olivier found that age modified, to a certain extent, this peculiar property of the periosteum; advanced age, for instance, while it diminished the property, did not complely destroy it. The osseous tissue obtained in this strange manner he found to be real bone, similar to that of the rest of the body. The result of these interesting and curious experiments goes to prove that bone can be obtained in whatever part of the body the periosteum can be introduced; and, further, that a membrane may preserve its properties notwithstanding its removal from its original seat and transplantation to another part of the economy.

FORMATION OF BONE.—In the museum of Würzburg I saw the beautiful series of preparations made by the late Professor Bernard Heine, illustrative of his celebrated experiments on the formation of new bone from periosteum. Here we see the femur of a dog, formed entirely of new bone, which was developed from periosteum eleven months after the extirpation of the original bone; and there is a rib similarly developed seven months after the operation. Heine cut away all the bones of the right fore-leg of a dog, leaving the periosteum behind. Fourteen months afterwards, a new scapula, with a perfect articular surface, was formed, and similar development of new bone took place, a few months after the resection, at the site of all the other bones. The beautiful dried preparations of these curious results are preserved with great care, and are shown with a justifiable pride. I heard that the French government had offered to purchase the series for a Parisian museum, but that the Würzburg faculty had properly declined to part with them.—*Adams' Med. Notes.*

THE FRENCH DOCTORS.—The great medical cause which has been so long pending at Paris between the allopathists and the homœopathists was terminated on Saturday, to the discomfiture of the latter. The case, in a word, was simply this: The Union Médicale some time since stigmatized homœopathy as a pretended science, and its professors as charlatans. Upon this 24 homœopathists of Paris brought an action for libel. M. Emile Olivier did his best for them, but the court, after a hearing of several days, dismissed their action with costs. The Paris correspondent of the Globe says, the homœopathic doctors were unsuccessful in their demand of 50,000f. damages for being called quacks by the Union Médicale, not indeed on the merits, but on a legal point. It now appears that Hahnemann was not the originator of this doctrine, it having been taught some 300 years ago, as proof positive occurs in a strange quarter, viz: a devotional treatise of the pious and witty Bishop of Geneva, St. Francis de Sales. "Medical men (says that ingenious writer) have an idea that contraries are to be met by contrary remedies; but the followers of Spagirus (whoever he was) maintain the exactly opposite theory. They observe that the light of the stars can be obscured as well by a fog as by the superior light of the sun, but more effectually by the latter." And the worthy saint goes on to theorize in the very same line, since adopted by Chalmers in that most beautiful of his sermons, "On the expulsive force of a new affection." The passage in the works of St. Francis de Sales is Book II. cap. 20, "De l'Amour de Dieu."

VIRGINIA

MEDICAL JOURNAL.

MAY 1859.

ART. I.—*On the Physiological Position of Fibrin.* By LEVIN S. JOYNES, M. D., Professor of Institutes of Medicine in the Medical College of Virginia.

THE mutability of medical doctrines has become a by-word, and, with those who judge harshly, a reproach. An old French medical writer, Bordeu, compared the human mind in the pursuit of scientific truth, to a drunken man on horseback, who inclines first to one side, and in endeavoring to recover himself, is sure to swing as far over to the other; so that he finds it impossible to sit straight up in his saddle.

In no department of our science has the multiplicity of opinions and the ceaseless tendency to revolution been so conspicuous as in physiology. This is due in a chief degree to the inherent difficulties and obscurities of the subjects it embraces. Where facts are imperfectly understood, they may admit of several different explanations, one or other of which will prevail according to the preconceived ideas of enquirers; or, an accepted doctrine may be overturned by the discovery of new facts, which are found to be irreconcilable with it. Besides which, the surpassing interest which invests the operations of the living organism, too often tempts the physiologist to the exercise of the inventive faculty in the solution of the problems which present

themselves, and thus he *assumes* facts, which afterwards turn out to be false: nor can it be denied that a natural instability of mind, and an innate passion for novelty, on the part of the "interpreter of nature," has now and then given birth to a new theory. We can only lament, but cannot remedy, the changeful aspect of the science, until the arrival of that long distant period, when we shall see all things clearly in the full light of positive knowledge.

Among the many unsettled questions which are at this time attracting attention and inviting discussion, is that which I have chosen as the subject of this essay. A few years ago, it is true, no chapter of doctrine seemed better established than that which relates to the physiological relations of the animal principle which we term *fibrin*—its origin, uses and destination in the economy. But for some time past there have been indications in various quarters, of a growing revolution of opinion on this subject, which, in a theoretical aspect at least, is of fundamental importance both in physiology and pathology; and it may not be uninteresting to enquire into the sufficiency of the grounds on which it is sought to justify the change of faith.

A peculiar interest has always attached to the substance in question, by reason of the remarkable phenomena in which it takes a leading share. The coagulation of the blood is entirely due to its agency. Though held in perfect solution so long as the blood is flowing in the living vessels, no sooner is this fluid withdrawn from the body, than the fibrin (in the exercise of a property which is inherent in it, and distinguishes it from all other animal principles) passes spontaneously to the solid state. Its particles concrete in the form of innumerable delicate filaments or "fibrils"—and these, by crossing and interlacing with each other in a thousand different directions, form a close net-work, in which the red and white corpuscles are entangled and held fast: and thus it is that the fibrin is the active agent in the coagulation of the blood; and, though its proportion in the fluid amounts to no more than two or three parts in 1,000,

it holds in its grasp the red corpuscles, whose normal proportion is from 125 to 140 parts. Next, the fibrinous network slowly contracts, and presses out the yellow serum which soon surrounds the clot and bathes its surface. In the *buffy coat* of inflammatory blood, we have an example of nearly pure fibrin.

The same principle is also an ingredient of the chyle and the lymph—the proportion, however, being less than in the blood: but it is not normally found in any of the *secreted fluids*, whether those of the excrementitious class, or those destined to some special office in the economy.

In *disease*, it not unfrequently escapes from the circulating fluid, especially in acute inflammations—being a constant ingredient of that "coagulable lymph," which is so often poured out either into the parenchyma of organs, or upon their membranous surfaces. The tendency to such exudations is accompanied by an increased proportion of fibrin in the blood, which is as invariable an attendant of inflammation as the vascular engorgement which belongs to it.

A plastic fluid of analogous constitution is the material employed by nature in the reparation of injuries, whether wounds of soft parts, or fractures of bone: and in both kinds of exudation, the fibrin manifests the same tendency to spontaneous coagulation, and after the same manner, as in the blood.

It does not appear that fibrin enters into the composition of any of the living *tissues*. Formerly, indeed, it was universally regarded as the chief constituent of the muscular fibre: but, according to the view of the leading physiological chemists of the present day, the substance of muscle consists of a peculiar principle (named *syntonine* by Lehmann, *musculine* by Robin and Verdeil), which differs from fibrin in some well-marked particulars, corresponding rather with albumen, with which it is said to be quite identical in composition.

It would be foreign to my present purpose to describe in detail the physical properties and chemical characters of

fibrin. As to the former, if any one will take the trouble to examine the buffy coat of inflammatory blood, or to stir any specimen of fresh-drawn blood with a stick, and wash the clot which adheres to it, to remove the red coloring matter, he will obtain a better idea than can be conveyed by any verbal description: and if he will take a thin film of the white, fibrous-looking, elastic substance thus obtained, and examine it carefully with a good microscope, he will readily distinguish the filamentous arrangement which fibrin assumes in its coagulation.

In chemical characters, its close relations to those other "protein compounds," albumen and casein, are admitted by all chemists, notwithstanding the remarkable differences in the condition and mode of their coagulation—neither of these kindred principles exhibiting any tendency to *spontaneous* coagulation, though this change is readily induced by chemical agents. In neither case, however, does the coagulum present a definite arrangement of its particles, like that of fibrin.

As it respects their *composition*, it is sufficient to examine the analysis made by various chemists of late years, to be satisfied how near is their resemblance. It appears singular, indeed, that two ingredients of the blood so different in the particular just referred to, as are albumen and fibrin, should be so nearly identical in composition. Some analyses, it is true, give a somewhat larger proportion of oxygen for fibrin; and great importance has been attached to this difference: but, if it exist at all, it is very trifling. In the comparative analyses given by Liebig in his Letters on Chemistry, which Robin and Verdeil consider the most trustworthy, no such excess of oxygen appears, but the reverse—the numbers being, for albumen, 22.54 per cent.; for fibrin, 21.7.

There is little doubt that the two bodies may be converted into each other by the processes of vital chemistry—fibrin, when taken into the stomach, being transformed into albumen by digestion, and so absorbed; and albumen, in its

turn, being continually transformed into fibrin in the chyle and blood. There is every reason, indeed, for the belief that such is the source of all the fibrin which the blood contains. This, however, is rather prejudging a point in controversy.

The views heretofore generally current in reference to the offices of fibrin in the economy, assigned to it the highest place among all the proximate principles. It was regarded as an organizable compound—as *the* organizable principle *par excellence*—the immediate nourisher of the living tissues—the form through which the albumen of the blood (which so largely exceeds it in amount) must pass before accomplishing its work of nutrition. It is to this end that fibrin is being continually elaborated out of the kindred compound, in the blood, the chyle and the lymph, as they flow in their vessels. Fibrin, it was said, is not a mere *chemical compound*, like albumen or gelatin, but already *half-vitalized*, and endowed with an inherent tendency to organization—this being manifested by its passing spontaneously to the solid form, by the regular arrangement or structure which its particles then assume (reminding one somewhat of an organized fibrous tissue)—and by its invariable presence and agency in those plastic exudations which become organized into false membranes, and form the medium of the healing process. Its supposed presence in the muscular fibre, as the basis of its composition, was also appealed to as a fact of much significance.

Of late years, however, various considerations have been adduced, tending to invalidate this attractive theory, and to establish in its place one which is more or less completely the reverse of it. Among the partisans of this new view, may be mentioned the names of Zimmerman, John Simon, Handfield Jones, Brown-Séquard, Bernard and Rokitansky, whose authority in the world of science certainly entitles it to a candid and deliberate examination.

Fibrin, it is maintained, so far from being a peculiarly organizable or plastic material, and the immediate pabulum of

the most highly-vitalized tissues, is, in reality, an *excrementitious compound*, not at all available for nutrition, and to be reckoned "among those elements which have arisen in the blood from its own decay, or have reverted to it from the waste of the tissues," and are in process of elimination from the system. (General Pathology, p. 44.) Rokitansky speaks of it as "an excretory formation—a substance brought by oxidation nigh to the state of disintegration—an albuminous matter consumed by oxidation," &c.

All idea of *vitality* as appertaining to fibrin, is of course repudiated, and its coagulation is regarded as a mere physical consolidation, or a precipitation from solution, induced by external conditions, and no more vital than the coagulation which we cause in an egg by boiling it, or in milk by the addition of an acid.

Fibrin being deposed from its high office, it is of course albumen that takes its place as the great plastic and tissue-forming element of the blood.

Some, however, modify this view so far as to admit that fibrin is capable of a certain degree of organization, but of a *very low kind*, never rising above the grade of the white fibrous or the areolar tissue. It is completely foreign to the nutrition of the higher tissues, such as the muscular and the nervous.

Let us now see what are the principal facts and arguments by which this view is supported, and endeavor to appreciate their value:

1. It is urged that the proportion of fibrin in the blood is *too small* to warrant the idea that it is the sole, or even the chief pabulum of the tissues. It amounts to but two or three parts in 1,000 of the fluid, while the albumen is estimated at about 70, and the red corpuscles at 125 to 140.

2. There is no fibrin in the egg, from which all the tissues of the young bird are developed—"little or none" in the blood of the fœtus—and less in the new-born child than in the adult: although at these periods of existence nutrition

and development are proceeding with greater activity than in after life.

3. "I find," says Mr. Simon (*loc. cit.*), "that fibrin is undiminished by bleeding, however frequently repeated; nay, that it often, or even usually increases under this debilitating treatment: its highest figure given in Andral's book (10.2), was at a fourth bleeding: and Scherer found it as high as 12.7 at the third venesection in a case of pneumonia. I find that under many other circumstances of exhaustion and weakness and inanition, during the progress of starvation, during diseases essentially anæmic, during violent fatigue, and the like, its proportion has been found at least as high, perhaps higher than in the inflammatory process." In these respects its proceeding is in direct contrast to that of the red corpuscles. Andral and Gavarret have also found that an improvement of the breed of an animal is attended with a diminution of the fibrin of its blood, but with an increase of its red corpuscles.

4. Fibrin, it is said, does not arise from the ingestion of food, for its proportion in the blood is not increased by the most abundant nutriment, and there is less in the blood of the carnivorous animals than in that of the herbivoræ.

5. Its composition shows that it is an *oxidized product*—that it results from the oxidation of albumen (or of some kindred principle of the tissues); and, in the animal economy, oxidation pertains rather to disintegration and waste than to the repair of tissue. It marks the *descending* scale of metamorphosis rather than the ascending—a tendency to destruction rather than a tendency to organization: Thus urea, uric acid, and other ingredients of the excretions, are oxidized products. Experiment proves conclusively that the respiration of pure oxygen causes an increase of the fibrin of the blood.

6. Although the majority of chemists have agreed in stating that there is a somewhat higher average proportion of fibrin in *arterial* than in venous blood, it is now said that Lehmann had recently found, that while this is true so far

as regards a comparison of the blood of the *large veins* with that of the arteries, the blood of the *smaller veins* contains *more* fibrin than arterial blood, as if it had just derived a fresh charge from the disintegration of the tissues. (Brown-Séquard's Jour. de Phys. April 1858.)

7. The proportion of fibrin in the blood is always increased in inflammatory affections, where the acceleration of the capillary circulation and the attendant emaciation indicate an *increased waste of tissue.* As the excitement of the circulation subsides, and nutrition resumes its healthy course, so does the fibrin return to its normal standard.

8. Experiments on the transfusion of blood prove that fibrin is not essential to nutrition. If an animal be bled to complete syncope, and its own blood or that of another animal of the same species be injected into its veins (being first wholly *deprived of its fibrin* by stirring it with a bundle of twigs while still fluid), the animal nevertheless seems to "acquire fresh life at every stroke of the piston," and is after a time completely restored. The *red corpuscles* are evidently the efficient agents in the resuscitation; for if the *serum* of blood only be injected, the animal is not revived.

In like manner, Brown-Séquard has found, that if the amputated limb of a man or animal be allowed to lie for several hours, until its vital properties (muscular irritability and impressibility of the nerves to stimuli) have disappeared, they may be promptly restored and maintained for hours by the injection of *defibrinated* blood into the vessels: And, what is very singular, it is stated by the experimenter, that although the blood be injected without its fibrin, and arterial in hue (from exposure to the air), it returns by the veins presenting the appearance of *venous blood*, and *containing fibrin*—whence he infers that fibrin is formed in the tissues, especially in the muscles, as a product of their waste or vital decay. This conclusion is also adopted by Bernard, in his late work, "*Leçous sur les Propriétés Physiologiques et les Altérations Pathologiques des Liquides de l'Organisme.*" Paris, 1859.

Experiments similar to the above were performed upon decapitated criminals, and with corresponding results.

9. The blood of the *hepatic veins* contains *no fibrin.* (Lehmann, Brown-Séquard, Bernard.) The same is also true of the blood of the *renal vein.* (Franz Simon, Bernard, Brown-Séquard.) Fibrin, therefore, disappears from the blood which traverses these glands; it undergoes destruction there. Brown-Séquard has endeavored to prove by a mathematical calculation in his journal above cited, that this destruction amounts to some four or five kilogrammes (10 or 12 pounds) daily, while its normal proportion in the blood is kept up by the waste of the tissues.

10. Effusions of fibrin, it is argued, either exhibit no tendency at all to undergo organization, or their organization is of the lowest character, "never, in any known instance," says Dr. Handfield Jones, "amounting to more than the formation of a fibrous tissue, more or less closely resembling the natural." "That fibrin takes an important part in the reparative process, cannot be doubted. We constantly find it forming the uniting medium between divided parts; but have we any evidence that it becomes further developed, and passes into the form of any tissue more highly organized than that of the cicatrix? Surely, there is not the least; or rather, all that we know of the process of reparation tends to contradict such an idea." (Jones and Sieveking's Pathological Anatomy, p. 59.) Mr. Simon (*op. cit.* p. 82) is still more decided: "So far as my knowledge extends of adhesive inflammation, and of the several reparative processes, I see no evidence that fibrin takes a more important part in them, than that of holding the true albuminous blastema within its meshes, and thus occasionally serving as a provisional matrix and scaffolding for the development of cells, fibres and blood vessels." He also refers to the absence of organization in the fibrinous clots lining an aneurismal sac, in the coagula which form in arteries after ligature, and in the fibrinous concretions often seen in the substance of the liver, spleen and kidneys, as proof that fibrin is destitute of

that high *plasticity*, or tendency to organization, which has been ascribed to it.

Such is the formidable array of arguments that we have to consider. That they make out, at first sight, a very strong case, cannot be denied. Some of the facts adduced seem to be in complete opposition to the ideas heretofore entertained. A deliberate and candid survey of the whole ground, however, will suffice to convince an unprejudiced mind, I think, that these arguments are wholly insufficient to prove, either that fibrin is an excretory compound, resulting from the destructive changes going on in the tissues or in the blood, or that its function in the nutrition and repair of tissue is of the very lowest order. We are still fully justified in adhering to the belief that fibrin is a highly important "element of nutrition," specially and eminently organizable, though we have no sufficient reason for asserting that it is the *only* histogenetic principle of the blood, and that albumen must pass through the condition of fibrin in order to be applied to the repair of the wasting tissues.

I will examine the above arguments in the order in which they have been presented.

If the *quantity of fibrin* in the blood be small, compared with that of the albumen or red corpuscles, how *large* is it, on the other hand, when compared with that of the organic matters admitted by all to be effete and useless—for example, urea, uric acid, creatine, &c. In order to detect these in the blood, we are obliged to analyze several pounds of the fluid—nature guarding the system with the utmost jealousy against the accumulation of compounds which are at best but useless refuse, and would soon become noxious, if allowed to taint the blood in notable quantity. The amount of fibrin, on the contrary, is such as to impart to the blood some of its most remarkable properties, and sufficient, too, one would think, to make good its claim to a function of importance.

Besides, although the amount of fibrin in the circulating fluid *at any one moment* be small—not more than five drachms,

it is estimated—it must be recollected that it is *being continually produced* in the organism, as it is being continually disposed of in the operations of life; and thus, beyond question, a large amount is daily generated and expended. Fibrin is being constantly introduced into the blood as an ingredient of the chyle and lymph, and as incessantly formed in the blood itself—in all probability, by the transformation of albumen.

There is no fibrin, it is said, *in the egg*, which contains all the organic matters which are requisite for perfect animal development. True—but the material from which fibrin may be elaborated (albumen), is there in abundance; and this elaboration does take place at an early period of development; for when the blood makes its appearance, fibrin too appears as one of its constituents.

I am not acquainted with any well-authenticated analysis which justifies Mr. Simon's assertion that there is "little or no" fibrin in the blood of the *fœtus*. There is somewhat less, it is true, than in the blood of the adult. The analysis of Denis, which is quoted in all the works on physiology, gives for the mother's blood, 2.4 of fibrin, and for that of the fœtus, 2.2 in 1,000 parts of the fluid. The difference is certainly not great enough to serve as the basis of an argument on the question at issue, and is no greater than often exists in the blood of different healthy adults. The same remark may be made with reference to the comparative deficiency of fibrin in infancy. And it may be asked whether the smaller proportion of this principle at these early stages of existence, may not be owing to its *more rapid consumption* for the purposes of development and nutrition?

The great and striking peculiarity of fœtal blood, is its high proportion of red globules and iron.

That the abstraction of blood in *inflammatory diseases* does not directly reduce the proportion of fibrin, cannot appear surprising, when we recollect that a cause is in operation, *tending directly to its increase;* and it cannot be expected to diminish until the inflammation begins to subside. Even in

health, however, bleeding has no tendency to reduce the proportion of fibrin, but (if often repeated) rather the reverse, as certain remarkable experiments of Magendie have shown. It appears, therefore, that the system enjoys the power of rapidly repairing the loss of its fibrin, by the conversion of the albumen of the blood; and when excited by unusual demands, this physiological action may become excessive.

As to the increase of fibrin in *starving animals*, which at first view seems so paradoxical, we find a very satisfactory explanation in the observations of Andral and Gavarret, who found this condition of the blood in animals deprived of food, to coincide with lesions of the stomach "of the most clearly *inflammatory nature*, such as bright redness, softening, and numerous ulcerations of the mucous membrane."

So in phthisis—the excess of fibrin which is common in the blood after the first stage, is not to be referred to the anæmic or cachectic condition of the system, but to the inflammatory irritation of the lungs and pleura, which attend the softening and evacuation of the tubercles. The *mere tubercular development* is not attended with any such alteration of the blood. Andral's researches in like manner establish, that in the blood of persons affected with cancer, there is no increase of fibrin, sometimes on the contrary a diminution, unless there be accompanying inflammation of some kind.

It ought not to seem so unaccountable that the fibrin is undiminished in anæmia—for no good reason can be given why the loss of *red corpuscles* should be attended with a corresponding loss of fibrin. The several ingredients of the blood may vary in proportion quite independently of each other.

The alleged diminution of the fibrin in the blood of animals, simultaneously with an "improvement of breed," is a circumstance of rather too vague and indefinite a character to merit much consideration. It is not pretended, I believe, that the difference thus occasioned is any greater than may normally exist between two individuals of any one breed—

nor is it proved that the nutritive process is more perfectly accomplished in proportion to the loss of fibrin. Differences of breed in animals relate to other and more prominent characters than this.

There is no sufficient reason for saying that the fibrin of the blood does not derive its source from the food, or that its amount is not affected by the *nature* of the food. True, the blood of the carnivora contains less than that of the herbivora; but this is connected with differences of organization and vital action in the two orders, which forbid to refer to them as true standards of comparison for each other. In any one animal, or in different individuals of one species, the proportion of fibrin is higher under an animal than under a vegetable diet. This is proved by Lehmann's experiments upon himself, and by those of Nasse upon dogs. Fibrin itself, when employed as food, is certainly nutritious—capable of furnishing plastic material to the blood. In making this statement, I am not alluding to muscular flesh, which, according to the chemists, is not fibrin: I speak of the fibrin of the blood. The "gelatin committee" of Paris found that dogs fed on this fibrin alone, lived from 75 to 80 days, while on a diet of pure gelatin, they died in about 20 days. It is true that the fibrin did not sustain life continuously, but it proved no worse in this respect than albumen, or muscular fibre (if deprived of the matters associated with it by long boiling). Dogs lived no longer on these than on the fibrin of blood. The simple fact is, that *no one proximate principle*, whether animal or vegetable, is capable of nourishing the animal body perfectly and for a length of time: but we have the same experimental proof that fibrin can *do its part* in alimentation, that we have in the case of albumen or the muscular substance. (See Bérard's Cours. de Phys. vol. 1, p. 591.) But fibrin, when ingested, does not all find its way *as fibrin* to the blood: for in the process of gastric digestion, it is transformed into that modification of albumen called *albuminose* or *peptone*, in order that it may be the more readily absorbed. Once within

the absorbent vessels, part of it reverts to the condition of fibrin, in order to meet the demand of the organism for this principle. So when the albumen of the egg or the casein of milk is employed as food, a part, after absorption, is converted into fibrin, as shown by the coagulability of the chyle.

The *excess of oxygen* which the ultimate analysis of fibrin exhibits as compared with that of albumen and other protein compounds, and which is relied upon to prove that the former is an "oxidized product"—a protein compound in the first stage of "destructive metamorphosis" or decay, and therefore to be placed in the same category as urea, &c.— is very inconsiderable, if indeed it exists at all. Can it be admitted (in view of what has already been stated) that the differences between these compounds are such as to require to assign to them different physiological relations? Can it be for a moment supposed that two principles so slightly differing from each other in composition and other chemical characters as albumen and fibrin, should have *precisely opposite destinations*—the former to nourish and repair the most highly vitalized textures—the other to encumber the circulation as so much offal, until it finds an outlet, in a still more degraded form, by the channels of excretion? Certainly such a supposition does great violence to probability.

Lehmann, with reference to the relation of these bodies, remarks (Manual of Chem. Phys. p. 110), "It must be conceded, from the whole occurence of fibrin, that it is a product of the transformation of albumen." "*If we could rely upon the elementary analysis of these substances, the small excess of oxygen which is found in fibrin might characterize it as a product of oxidation.*" But he none the less admits "the physiological importance of fibrin, as a transitionary state towards the more highly oxidized tissue materials:" for in another place he points out the fact that the tissues "*are on the average much richer in oxygen than the protein bodies.*" Whence it follows, that the action of oxygen upon the latter is far from being necessarily a destructive or retrograde

action, or has been rather too hastily supposed, under the influence of preconceived ideas.

The statement made by Brown-Séquard on the authority of recent researches of Lehmann, that the blood of the small veins contains more fibrin than that of the arteries, is certainly worthy of attention: and if the fact could be accepted as undeniable, it would certainly afford a very plausible ground for presuming that the excess of fibrin in the small veins had been derived from the tissues as a product of their waste. We may take leave, however, to hold the fact *sub judice*, until it shall be confirmed by the analyses of other observers, and shown to be generally (and not merely exceptionably) true. It must be confessed that the fact is completely at variance with the general result of previous researches, which had revealed an average preponderance of fibrin in arterial blood.

The invariable augmentation of fibrin in the blood of inflammation, is a fact full of interest in a physiological aspect, but very difficult of consistent explanation, whatever be our view of the character and destination of this substance. If we regard it as a product of the disintegration of the bodily structures, we may reasonably ask, how it is that in *grave typhoid fever*, where the wasting and exhaustion are certainly much greater than in sthenic inflammations, there is a *loss* of fibrin instead of an increase? Whereas, on the hypothesis in question, the proportion ought to be higher than in the phlegmasiæ. If we regard fibrin as a product of oxidation, why should it be constantly increased, and often to a very high figure, in inflammations of the respiratory organs, however severe or extensive—though these must necessarily interfere with the supply of oxygen to the blood? If, on the other hand, we regard fibrin as a nutritive or histogenetic principle, shall we say that the blood in inflammation contains more of it, because the demand for it on the part of the tissues is less active, and therefore *more remains unused?* We should then have to encounter the difficulty, that the

fibrin undergoes increase in starvation, where there is certainly no lack of demand for whatever nutriment the tissues may obtain.

In a word, the true cause of the fibrinous character of inflammatory blood is a problem yet to be solved—and at present the fact can afford no valid support to any physiological hypothesis.

The results of the transfusion of defibrinated blood in living animals, and the highly interesting experiments of Brown-Séquard upon its injection into decapitated bodies and amputated limbs, do not, I apprehend, justify the inference that has been drawn from them. They do not prove that fibrin has no office in the blood as a source of nutriment to the tissues. As well might we argue from them that albumen is equally to be excluded from the category of nutritive principles; for when an animal is bled to the point of death, the injection of the *serum* of blood (which contains all the albumen) will not effect resuscitation. The red corpuscles are the potential agents in the restoration of the vital properties of the nerves and muscles, not because they alone take part in the nutrition of these tissues, but because they are *carriers of oxygen*, and the presence of oxygen is necessary to the manifestation of the properties in question. There are satisfactory reasons for believing that every development of nerve force, and every muscular contraction, is attended with (and necessitates) a *change* in the active tissue—a disintegration of part of its substance—in which the oxygen of the blood takes an essential part. It is *for this reason* that the presence of the red corpuscles is necessary for the restoration of nervous and muscular irritability: but there is a wide difference between this action and the supply of solid material to the tissues for the repair of waste. The experiments are entirely consistent with the supposition that the fibrin and the albumen both take part in this office.

The fact stated by Brown-Séquard, that the blood, though

bright red when injected, had the appearance of venous blood when it returned by the veins, is perfectly in accordance with the explanation just given.

The presence of fibrin in the blood, after traversing the limb, though it contained none when injected, by no means compels the admission that this fibrin was derived from the tissues, as the experimenter supposes. It was simply an example of the transformation of albumen into fibrin, such as is continually going on in the circulation during life. Robin and Verdeil expressly take this view of it. A similar formation of a small quantity of fibrin in blood which has been deprived of it, is occasionally seen when the blood is allowed to stand in an open vessel. However, the amount of fibrin which appeared in the blood in the experiments above cited, is admitted by the author himself, to have been "*extrêmement minime.*"

The alleged absence of fibrin in the venous blood returning from the liver and the kidneys, has been regarded a very significant and conclusive fact. If, indeed, fibrin undergoes destruction in those glands, and the products of its decomposition are eliminated by them, we must abandon all opposition to the hypothesis which regards fibrin as merely a part of the refuse of the system, circulating for a time in the blood only that it may find an outlet through the organs of excretion. But I attach little value to all that has been said on this subject, for more than one reason. In the first place, I do not think it is proved that fibrin is normally and constantly absent from the blood of either of the above mentioned veins. As to the hepatic veins, the statement, though very confidently made by the authors already cited, is directly negatived by the results obtained by Franz Simon, and recorded in his "Chemistry of Man," p. 174. In two instances (the only ones in which he examined this blood) he found it to contain 2.6 and 2.5 parts of fibrin—the proportion of the same element in the blood of the portal vein of the same animals, being in the first case 3.2; in the second, 3.5.

Brown-Séquard also admits that he has three times observed coagula (though of no great size) to form in blood drawn from the hepatic veins—and further, that after death the blood contained in these vessels is ordinarily found "coagulated or coagulable"—to explain which, he thinks it nenessary to suppose a reflux of blood (of course containing fibrin) from the vena cava. Admitting it to be true that the venous blood from the liver contains less fibrin than that of other parts of the vascular system, and sometimes none that we can detect, it must be borne in mind that the reduction has already commenced *in the portal circulation*, and should not be set down wholly to the action of the liver; for all observers agree that the portal blood is poor in fibrin.

As it respects the blood of the renal vein, too, Brown-Séquard admits that after death it is usually found to be coagulable or completely coagulated; which must of course be due to the presence of fibrin. He further states, that when this vein is opened in a living animal, although the blood which at first flows gives no indication of the presence of fibrin, yet if it be allowed to flow for three or four minutes, some fibrin makes its appearance, and after seven or eight minutes it is present "in notable quantity." Bernard makes on this subject the following singular remark: "The blood of the renal vein *coagulates, though it contains no fibrin.*" I leave it to chemists to decide whether the first branch of the proposition does not invalidate the last.

Having thus shown with what large allowance we must receive the assertion that the fibrin disappears from the blood which traverses the liver and the kidney, I next enquire, what has become of this lost fibrin?—for we must at least admit, I suppose, a *diminution* of it. It has not been excreted by those glands—for neither the bile nor the urine contains a trace of this principle: nor do they contain any ingredient which can by any reasonable presumption be ascribed to its decomposition. There is no more reason for assuming any such destructive change, than for supposing that the fibrin is consumed in nourishing the organs in ques-

tion, or (more probably) that it undergoes some unknown change of condition, attended with the loss of the characteristic property of coagulation, by which it is usually recognized. Perhaps it may revert to the condition of *albumen*. F. Simons' comparative analysis of the blood of the renal vein, and the arterial blood of the same animal, renders this a very plausible supposition: for he found that while the blood of the vein had lost the greater part of its fibrin (*not all*, as he is made by some writers to say), it had *gained albumen* in about equal amount. According to the same chemist, the blood of the hepatic veins also, while containing less fibrin than that of the portal vein, contains a decidedly larger proportion of albumen.

The idea promulgated by Bernard, in his Lectures on the Blood, that the fibrin is consumed in the liver in the production of the *sugar* which he has proved to make its appearance in that organ, is purely hypothetical, and rests on no valid foundation.

The properties exhibited by fibrin in inflammatory exudations, and the phenomena of the repair of injuries, so far from affording any argument against the doctrine that fibrin is a plastic material of the most essential importance, furnishes the most conclusive proof in its favor.

The assertion that the fibrinous coagula lining an aneurismal sac—those forming the so-called "polypi of the heart"—and concretions of the same kind in the midst of the parenchymatous structures, are incapable of organization, is entirely at variance with the positive testimony of some of the highest authorities in pathology. I take it to be also an established fact, that a *coagulum of blood*, whether in the cavity of an artery that has been tied, or in the substance of the brain, or elsewhere, may be organized and vascularized, though with comparative tardiness—the presence of the red corpuscles in the midst of the fibrin seeming to delay the occurrence of the vital changes.

But, not to dwell on these points, I refer next to the all-important fact, that in all inflammatory effusions which

manifest a capacity for organization, and in the exudations which serve as the medium for the reparation of wounds and fractures, *fibrin is an invariable ingredient*, and its presence is *absolutely indispensable to* the occurrence of those organic changes which result in the development of new tissue. Here as elsewhere, fibrin exhibits its property of spontaneous coagulation, which, be it remarked, is always the first step in the organizing process. The term *coagulable lymph*, so constantly applied to these plastic exudations, has familiarized our minds to the fact.

It is true, that this "lymph" (which consists essentially of the "plasma" of the blood, or *liquor sanguinis*, exuded from the vessels), contains other solid ingredients besides fibrin. A considerable proportion of albumen is there, with some fatty matter, and various salts, especially phosphates. Sometimes, too, a few red corpuscles of the blood are present, either entire, or in a disintegrated state. But though an exudation contain *all the other* ingredients, if no fibrin be present, not the slightest tendency to organization is ever manifested. Thus, serous effusions into the pleura or peritoneum, which contain every element that coagulable lymph does, except fibrin, never give rise to the formation of false membranes: nor is there any instance of a mere serous exudation serving for the reparation of an injured tissue. A true "*blastema*" is always more or less rich in fibrin. This, in the exercise of its distinctive property, first concretes upon the parts from which it was effused: then, by the agency of nucleated cells, or nuclei, which make their appearance in the blastema, fibres are formed; and finally, by the extension of vessels into it from the adjacent living parts, the organization of the new tissue may be said to be virtually completed.

It deserves particularly to be remarked, too, that the degree of plasticity of the exudation depends much on the *quality* of the fibrin—and this, in its turn, is intimately connected with the condition of the organism at large, and of the blood in particular. When there is sufficient vigor of

constitution, and the blood, besides a due proportion of other ingredients, is rich in fibrin, and this fibrin exhibits in a perfect degree its property of coagulation, then the exudation enters readily upon the career of development. But in unhealthy states of the system, when the fibrin of the blood, however abundant, is defective in quality, the exudations into which it may happen to enter, are (to use the language of Dr. Williams) either "cacoplastic" or "aplastic"—that is to say, either not at all organizable, or exhibiting this property in a very low degree.

I know it has been urged that effusions which contain fibrin, may nevertheless be without any tendency to organization. Thus, in some cases of dropsy, the fluid is fibrinous, as is proved by its spontaneous coagulation when exposed to the air; and yet no false membranes are formed from such effusions. This, however, may be ascribed either to the small amount of fibrin in the fluid, or to the presence of some cause interfering with the exercise of its peculiar endowments. The fact nevertheless remains, and cannot be denied or evaded, that the presence of a due proportion of fibrin is the indispensable condition of an organizable exudation.

It is argued, however, that the organization of a fibrinous blastema is always of a very low grade, resulting in the development of nothing higher or more complex than a simple fibrous tissue. "This, almost of itself," remarks Dr. Handfield Jones, "is a proof that fibrin is not the peculiarly organizable or plastic element that it has been considered to be."

This must certainly be regarded as a rather extraordinary statement. It is true, indeed, that the coagulable lymph effused either on inflamed serous membranes, or between the lips of a wound, always at first forms by its organization a fibrous or areolar tissue. But does the process necessarily stop there? By no means. The ultimate destination of the new structure, depends much upon the nature of the adjacent living parts. "All lymph," says Mr. Paget, "has

some tendency to assume, sooner or later, the characters of the tissue in or near which it is seated, or in place of which it is formed." And thus there may be developed from a plastic exudation, not only the above named simple tissue, but blood vessels, elastic tissue, mucous membrane, serous membrane, skin, cartilage, bone, adipose tissue, lymphatic vessels, even nervous tissue: for divided nerves may heal, and reacquire their functions perfectly in the course of a few weeks—and we have good authority for saying that nerve fibres have been more than once seen in inflammatory adhesions.

Now, what warrant is there for excluding *fibrin* from any participation in these ulterior developments of the blastema? Why regard *it* as useless, and albumen, the fatty principles, &c., alone efficient, when we know that in the outset, they, in the absence of fibrin, are wholly destitute of the least capacity for organization? Would it not be more consistent to say that the principle which *takes the first step*, also takes an important part throughout? Such is surely the *prima facie* conclusion, and I know of nothing which invalidates it. I am acquainted with no fact relating to the organization of new formations, which gives any real countenance to Mr. Simon's opinion, that the fibrin of the blastema affords merely a "scaffolding" or mechanical support for the other elements, and takes no part itself in the development of cells and fibres, and in the various subsequent changes. What single reason is there to show that *albumen* takes the leading part in all these phenomena? If any should lay stress on the fact that fibrin is inadequate to the perfect repair of the muscular tissue when wounded, it may be answered that it is not more inefficient than other animal principles in this particular—the fact being that losses of the muscular tissue are never repaired by a new production of the same kind of tissue.

We have every reason to infer that the same materials which are employed in the regeneration of the tissues, are also those which are applied to the repair of their daily

waste: for it is admitted that the two processes are but modifications of one and the same function of nutrition. If fibrin is an essential means of tissue formation in the one case, it must equally be so in the other. It is not easy to see how the justice of this conclusion can be disputed.

Dr. Carpenter has advocated an opinion on this subject in the later editions of his works, which is, to say the least, paradoxical, viz: that fibrin is applied to the nutrition of the "fibro-gelatinous tissues" (fibrous, areolar, &c.), but takes no part in that of the *higher* structures. He maintains on the one hand, that fibrin is a *vitalized* principle, as proved by its possessing "the power of spontaneously passing (under certain conditions) into an organized tissue;" but on the other, that it is "the special pabulum of those *connective* tissues, whose physical offices in the economy are so important, while their *vital endowments are so low.*" He thus assigns the only proximate principle which he regards as truly vitalized, to the nutrition of some of the least vitalized structures. There is surely here a glaring inconsistency.

Dr. Carpenter's idea seems to have been suggested by the fact, that fibrin, in undergoing spontaneous coagulation, assumes a more or less distinct filamentous arrangement, which reminds one of the structure of the white fibrous tissue. But he seems to have forgotten that a coagulum of fibrin, however perfectly "fibrillated, *is not fibrous tissue.*" The production of *this* on the surface of an inflamed membrane or a wounded part, is a subsequent affair, being effected by the development of nucleated cells, which then, by particular changes of form, undergo transformation into true fibres. It would be remembered too, that fibrous tissue consists not of fibrin, but of *gelatin.*

On the whole, there does not appear to be any satisfactory reason for limiting the histogenetic uses of fibrin to the fibrous and areolar structures. Its peculiar "vital" endowments, which distinguish it so remarkably from other organic compounds, would rather claim for it a higher destination.

The principal arguments in favor of the hypothesis which

I have been combatting, have now been reviewed and found (if I mistake not) wholly inconclusive. Some of them would invite a more extended discussion, but I must hasten to a close. I cannot conclude, however, without calling attention to a few other points in the history of fibrin, which appear to bear strongly on its physiological relations.

1. Fibrin is a constituent of the chyle. Evident indications of it are found in the fluid drawn from lacteals of an animal in full digestion, at their very issue from the intestine; but its quantity progressively increases by the transformation of albumen, and its characters become more perfectly developed as the chyle moves along the vessels towards the thoracic duct, and through it into the venous system; and a further increase takes place as the blood passes from the venous to the arterial side of the circulation. We may affirm, therefore, that *the proportion of fibrin increases as the products of digestion approach the points where materials are needed for the nutrition of tissue:* and we may ask, if fibrin be an excrementitious product, why should it appear *in the chyle* directly after its absorption? We cannot account for its presence here by the waste of tissue, nor can we reasonably suppose the occurrence of a "retrograde metamorphosis"—a destructive change in the products of digestion as soon as they are absorbed.

2. Fibrin is normally found only in the *nutritive fluids* of the economy—the blood, chyle and lymph. It is not a constituent of any *excretion*—as are all those ingredients of the blood which are admitted to be excrementitious—such as carbonic acid, urea, uric acid, creatine, &c.

3. Fibrin is nature's agent for the *arrest of hemorrhage.* When vessels are divided, the coagulation of the blood is the means by which their occlusion is mainly effected, and the flow permanently arrested. If the blood contained no fibrin, and were therefore not coagulable, hemorrhage, even from the slightest wound, could never be arrested by the efforts of nature. But for the same protective property, every separation of a gangrenous part would be attended

with bleeding. Effusion of fibrin is also the means by which suppuration is circumscribed, and prevented from assuming that diffuse character which is sometimes so destructive. In these several particulars, fibrin performs offices which are signally *conservative.* Can we say as much for any of those products of wear and tear which constitute the true offal of the system?

It has been aptly remarked that the organism *bears an increase of fibrin better than a diminution.* Witness the comparative gravity of sthenic inflammation, and the severer grades of typhoid fever. Not so with any organic compound of the excrementitious class. The accumulation of these in the blood is the signal of urgent peril.

4. Is it mere fancy that sees in the *spontaneous coagulation* of fibrin, and the definite disposition which its particles usually assume in solidifying, the indication of a special tendency to organization? And is it unwarrantable to argue therefrom, the possession by this principle of a certain degree of *vitality?* I know the chemico-physiological school of the present day repudiate *in toto* this ancient doctrine of Hunter. They see in fibrin a mere chemical compound like albumen or gelatin—not more animalized than they—and regard its coagulation as a mere physical consolidation, really peculiar only in the conditions under which it takes place. But as these same philosophers reject altogether the intervention of vital forces in the operations of life, regarding the living organism as swayed wholly by the same physical and chemical laws which control dead matter, it is not from them that we are to expect an impartial answer, when any question of vitality arises. But if we recognize such a thing as vitality at all—if we regard organization as the invariable index and accompaniment of life—if we admit vitality in the egg, because under certain external conditions it becomes developed into a complex organized being—we must equally allow that fibrinous effusion upon a living surface is vitalized: for, although external to the vessels which circulate the blood, and withdrawn from the sphere of ac-

tion of the nerve force, it becomes, by virtue of its own inherent properties, the seat of a process of organization, which results in the development of living tissues, more or less perfectly resembling those of which the organism was originally constituted: and as the plastic power which determines all these remarkable imitations of natural development pertains essentially to fibrin, the presence of which is their *sine quâ non*, the recognition of vitality in it is not only allowable, but unavoidable. Its passage from a fluid state to that of a definitely arranged coagulum, is the first manifestation of that vitality.

All attempts to ascribe this coagulation to the operation of mere chemical or physical influences, have failed. It is a change which fibrin always undergoes of its own accord, when it is not kept *moving in contact* with living parts, whatever be the external conditions in other respects. When, in the course of the circulation, the plasma of the blood is effused from the capillaries into the midst of the tissues for their nutrition, the fibrin, being now *at rest*, is free to pass to the solid state, and enter into combination with the tissue or tissues of which it is the appointed food.

What those tissues are, we cannot in the present state of the science declare. If we cannot affirm positively that the *muscular* is one of them (or the only one), on the other hand, the differences between fibrin and the substance of muscle are not so great as to authorize us positively to *deny* it. It was with no hope of solving this problem that I undertook the investigation of this subject. What I have attempted to prove is, first, that fibrin is not a product of vital decay, but a principle destined for the nutrition of tissue; secondly, that its agency in this respect is not restricted to the tissues of the lowest grade. Further than this we cannot go, without venturing into the domain of speculation. We have no just ground for affirming that fibrin is the only immediate tissue-forming ingredient of the blood—that the albumen (for example) which abounds there, must pass through the form of fibrin before combining with

any living structure; the probabilities are all against such an exclusive view. But that fibrin is a *specially and eminently organizable or histogenetic* material—this, I am convinced, is a truth which cannot be successfully controverted. To this extent, at least, I am still content "*stare super antiquas vias.*"

ART. II.—*Report of a Case in the Hôpital de la Charité.* By S. L. INGRAM, M. D., of Richmond, Va.

DURING my attendance upon the clinics at the hôpital de la Charité, the following case came under my observation, and I have been induced to report it, from a consideration that it might be interesting to some of the readers of the Journal.

On the 10th of February 1858, B—— D—— entered the hospital, service of M. Piorry, of robust constitution, though a free drinker of *eau de vie.* On the 1st of February he was compelled to leave off work, on account of indisposition. He experienced a pain in the right side; no cough nor expectoration.

On the morning of the 11th, at the visit, he was found in the following condition: Skin hot; pulse 86; heart in a healthy condition.

M. Piorry prescribed venesection, tart. ant. et potass, six centigrammes (about 2 grs). Diet.

February 12th.—Skin moist; pulse 90; respiration less frequent. Dullness at the summit of the right lung; souffle tubaire heard under the arm pit. Tartar emetic continued, and Bordeaux wine given occasionally.

13th.—No change.

14th.—Dullness persisting; souffle tubaire heard under the right clavicle.

16th.—Condition more favorable.

18th.—Erysipelas appears on the face, at the external angle of the left eye.

19th.—Eyelids much swollen, and the inflammation has gained the left cheek.

4 o'clock P. M.—The swelling has extended to right side of the face, and has continued its march to the neck.

5 o'clock P. M.—Swelling continues to increase; stertorous breathing; asphyxia imminent. Instruments were sent for to perform the operation of tracheotomy, but in the mean time the patient died suddenly.

Autopsy.—Many incisions were made through the face and neck, showing a serosité purelenté, very abundant, the same extending to the larynx and pharynx. The right lung appeared to have been on its way to recovery. Numerous adhesions to the pleura were noticed; left lung healthy. *The heart*, upon being cut into, presented a remarkable phenomenon. The knife came in contact with a hard substance, which we found to be a *needle*, in its interventricular space. The two extremities of the needle were free, but the middle was surrounded by a couch of fibrin. The point regarded the left ventricle. The head pointed to the right. On the anterior face of the heart we discovered a small tache rouge, which resembled an excoriation, which might have been produced by the rubbing of the needle against the sternum. Neither M. Durieau, with whom I made the post-mortem examination, nor myself, could account for its presence in this singular position, but inferred from appearances, that it had been lodged there for a length of time.

ART. III.—*College Infirmary Cases, under the Care of* DR. A. E. PETICOLAS, from the Reports of JUNIUS MICHIE, M. D., late Resident Physician; MARION HOWARD, M. D., Demonstrator of Anatomy in the Medical College of Virginia; and EDMUNDS MASON, M. D., Resident Physician to the College Hospital.

DEAR DOCTOR—I send you a small batch of cases treated at the College infirmary, and reported by different persons. The catalogue might be swollen by the addition of sundry amputations, dislocations, extirpations of various tumors,

club-foot, hare-lip operations, &c. But it would not be fair to monopolize too much space, while your readers might not care for the repetition of subjects met with by shoals in all the journals. The illustrious example of the high priests of our profession, however, has taught me to regard "eliminated jaw bones" as worthy of note and admiration, and I therefore hope they will not fail to secure the consideration of your patrons. Although, to state the truth, very little bone could be found, except at the extremities of my specimens—the major portion consisting of a mass of queer looking compound cysts lined with smooth membrane, containing yellowish transparent albuminous fluid—the whole enveloped in a fibrous covering of greater or less thickness continuous with the periosteum at the bony extremities. I must confess that I approached Manuel's jaw bone with the greatest reverence. I *read up* with becoming assiduity, and had very serious apprehensions raised by Vidal de Cassis, that if the patient failed to choke himself to death by swallowing his tongue just after the operation, which I took good care to prevent, he would most assuredly die of a sort of chronic suffocation. I am happy to say, however, that both Manuel and Lucinda have visited me within the past three months, looking sleek, amiable and grateful. They stated that their appetites were not impaired, and the power to gratify them, as well as their vocal intonation, was decidedly improved. There is no denying, nevertheless, that such operations are somewhat tedious, very bloody, and require, for their comfortable performance, experienced assistants.

It will be observed that both these cases, so far as could be traced, began to be developed, in individuals otherwise healthy, soon after the extraction of carious teeth. Such has been the history of all—some half dozen—I have seen. In both cases, the disease was completely defined at its posterior extremity, and did not pass beyond the dental canal. In both, the disease merged more gradually into the healthy bone in the opposite direction. In Manuel's case, it crossed

the symphisis, and the swelling was so gradual that it was difficult to decide where it would be safe to apply the saw. In both cases, a part of the ramus was preserved without subsequent inconvenience to the patient, but with the absence of the extended deformity and paralysis that would have resulted from a disarticulation recommended by some writers, on the plea that the disease might reappear in the articulated stump. By the way, I am told that a few of the New York surgeons profess to leave all the periosteum in such instances, and thus secure the reproduction of the jaw. This excessive ingenuity and skill in dissection smacks of the marvelous. I shall be always satisfied to remove with safety and success the offending structures, including this reproductive membrane.

Peter's case, aside from the evidence of strong reparative power, manifested in a miserably degenerate constitution, presents to my mind one point of singular interest. Peter had a diseased arm and a coxalgic hip. The arm affection preceded the ilio-femoral malady. The latter progressed, in spite of rest and remedies, until the arm was removed, and then its more urgent symptoms rapidly subsided, although, if revulsive influence is to be measured by the quantity of matter discharged, the suppuration of the stump was less by half than that of the sinuses. Now, PHYSIC believed in active purgation as curative of coxalgia. Blisters, setons, issues, moxas and actual cautery are the revulsive or counter-irritant remedies of most authors. Are we thence to conclude that these are more effectual when nearest the seat of the malady, provided the artificial abnormity be located in a different tissue? Jas. Nubie I regard as a sort of *opprobrium Peticolarum*, since he was upwards of 60 days in recovering his locomotive powers to the extent of walking without a crutch. Many cases are recorded of a similar nature, where in less than half this time the patient *ran* about with unusual alacrity, and executed sundry gymnastic feats too numerous to mention. The operation in this case was very tedious, and occupied I should not like to say how

long. But some notion may be conveyed of the character of events from the rather pithy remark of a colored *un*professional bystander, who said "he had heard tell of gougin out folks' eye balls, but dad shame his skin if he had ever heer'd of gougin out their heel bones." In fact, Mr. Editor, it sounds very pretty to detail, with high sounding technicalities, the successive steps of a surgical procedure, but the reality is but a bloody mist to the unsophisticated. Pompey's vulgar and summary condensation deals not in anatomical niceties, but it does give a most graphic idea of what unprofessional eyes might expect to witness on similar occasions. For all that, Jim Nubie is well and fat, and I send him to you as a specimen, because, so far as I know, his has been the only successful loss of calcaneum in Virginia.

Yours, truly,

A. E. Peticolas.

Two Cases of Osteo-Sarcoma of Inferior Maxilla—Resection of Diseased Bone.

Case 1.—Lucinda, negro, aged 19 years, admitted October 20, 1858, with tumor the size of a fœtal head, developed on left side of lower jaw; external swelling ovoid, smooth, resisting and well defined; skin stretched, thinned and adherent, but not diseased; internal development encroaching upon tongue, pushing the latter upwards, backwards and to the right, greatly impeding utterance and mastication; ragged, fungoid, ulcerated, traversed by sinuses discharging fœtid pus from leading diseased bone; whole disease included between middle of ramus and canine tooth; general appearance healthy. Eight months ago suffered from toothache; had carious molar extracted; another molar soon became affected. Swelling of jaw dates from its removal six months since. During progress of malady several pieces of bone have come away. Latterly, nocturnal exacerbations of pain prevented sleep. History of the patient leads to the belief

that she is the subject neither of scrofulous, syphilitic nor cancerous taint.

Tumor removed October 23d. Patient placed in the recumbent posture, and caused to inhale chloroform. Operation begun by vertical incision from lower edge of prolabium to inferior extremity of symphisis menti, penetrating whole thickness of lip, joined at lower end by two incisions, beginning above middle of ramus, and coinciding at their extremities, so as to include redundant integument, and leave it connected with extirpated mass. Skin dissected up and down, exposing outer surface of swelling. Jaw sawed through between canine and lateral incisor—partly sawed and partly clipped with bone nippers, just above orifice of inferior dental canal. Internal muscular, areolar, fibrous and mucous attachments cut as close to disease as possible. Flaps brought together with sutures and supported by straps, compress and double headed roller encircling head and pressing beneath jaw.

The chloroform acted badly. The operation was necessarily suspended two or three times on account of the struggles of the patient, who, while apparently thoroughly anæsthetized, would scream, kick and plunge, on the application of the knife. The hemorrhage was considerable, although the facial and inferior dental arteries alone required ligature. The dressings were not removed until the 26th, when nearly all the sutures were cut and withdrawn—adhesion having occurred along two-thirds of the wound. The case progressed favorably and without incident worthy of remark, and was discharged cured on the 17th November.

Case II.—July 23d.—Manuel, negro slave, aged 23, had jaw removed from between 1st and 2d bicuspids to middle of ramus on opposite side, cutting wide of diseased soft parts underneath chin. First incision begun just below right corner of mouth; carried straight to lower edge of jaw bone, and along bone's edge to opposite angle. Second incision, diverging from first when it reached lower edge of

jaw bone, ran obliquely backwards towards throat, including diseased soft parts, joined first at its termination and swept upwards along back of ramus. Flaps so formed dissected up, and tumor thoroughly exposed. Bone cut through with Hay's saw between bicuspids. With chain saw passed around ramus above orifice of inferior dental canal. Internal attachments cut carefully as close to disease as advisable. Tumor removed. Edges of wound brought together with hare-lip pins.

July 24th.—Patient looks decidedly crestfallen and miserable; swallows with difficulty, and articulates unintelligibly; has fever. Ordered syr. ipecac, syr. scillæ, aa. ℥ss; spts. ether nitrici, ℥i; aquæ, q. s. To be given while fever continues. Bowels to be opened by injection, if not naturally moved.

25th.—Better; articulation more distinct.

26th.—Chin supported with sheet lead wrapped in lint, and bandaged.

28th.—Wound dressed with wet lint alone.

27th.—All the pins but two withdrawn. Parts to be supported with isinglass plaster.

31st.—Two last pins taken out. Bacon allowed at the request of patient, food having hitherto been almost entirely fluid.

Aug. 11th.—Discharged cured. Speech more distinct than before the operation.

The account given by the patient of his malady was as follows: Thirteen years since, the second left molar of lower jaw ached. A colored man tried to extract it, but failed. The tooth was drawn by a doctor 12 months afterwards. The jaw bone soon gave evidence of a disease, which was supposed to be something like king's-evil, and a toad frog was ordered to be applied with the belly to the jaw, and retained in that position till it died. The prescription was accurately followed. During this time the patient worked as a field hand. He then was sent to Petersburg, where he remained in comparatively good health. The jaw

increasing but little in size, resembled a quid of tobacco held in the cheek. Subsequently, patient returned to the country, and was again employed as a field hand for about eight years—the tumor gradually increasing, but most rapidly in last two years of this term. It appeared to fluctuate in dimensions, seeming larger when patient was exposed during hot weather.

Disease of the Humerus, involving the Shoulder and Elbow Joints. The Limb removed at the Shoulder.

Case III.—Peter, a scrofulous looking quadroon, aged 15, admitted August 19th, 1858. General health bad; has been the subject of hectic fever for many weeks; is pale, emaciated and feeble; has hip disease of six months' standing. The lower limb of left side is permanently flexed and inverted; the hip joint swollen and painful; no evidence of suppuration. Left arm, from elbow to shoulder, riddled with sinuses, discharging curdy, ill-conditioned pus. Movements of the arm are limited in every direction, and attended with pain. Some of the sinuses open on the borders of the axilla. Elbow joint not painful, but somewhat stiff. The disease of the arm began last November, when, after severe suffering, several abscesses formed at short intervals in succession. These were opened by incision. Pieces of dead bone came away or were removed from time to time. It was decided, after consultation, that while disarticulation of the extremity at the scapulo humeral joint offered the only reasonable chance for permanent benefit, it would most probably be judicious, in the then enfeebled condition of the patient, to adopt measures calculated to produce some previous amelioration of his general health. Generous diet, a full allowance of alcoholic stimuli, cod-liver oil and iodide of iron were accordingly prescribed. Opiates to be administered when absolutely necessary to procure sleep, and the sinuses to be daily injected with some astringent solution, with a view to diminish, if possible, the profuse purulent

discharge. Sulphate of zinc and alum, 5 grs. each to the ounce of water, were at first used. Subsequently, a solution of perchloride of iron of the same strength. Peter's general health improved slowly but steadily under this course, although the coxalgia progressed in spite of absolute rest to the affected limb, with an occasional blister over the seat of the disease. No operative interference was resorted to until November 6th, when the left arm was removed at the shoulder, by Larrey's oval method, the patient being under the influence of chloroform. Some delay in the completion of the operation was occasioned by the morbid alteration in the tissues surrounding the joint. The hemorrhage was comparatively slight. Four ligatures were required in addition to the one on the axillary artery. The attempt to avoid the inclusion of diseased structures, produced a flap of scant dimensions. The lips of the wound were secured by the ordinary interrupted suture, supported by adhesive plaster covered with lint and bandage. Great prostration followed the operation, with constant nausea and repeated vomiting. Reaction came on very slowly. All food and drink were rejected for 36 hours. Under the influence of external stimuli, the patient gradually rallied. The stump was dressed for the first time on the 9th. There was no adhesion except at the upper angle of the wound. On the 13th inst. one ligature came away. Three were removed on the 15th. The fifth, securing the axillary artery, retained its position until the 25th. The wound healed slowly. Complete cicatrization was not attained until January 14. Meanwhile, however, the boy gained flesh and strength rapidly, being soon able to walk out and sun himself. It is worthy of remark, that the coxalgic symptoms abated soon after the removal of the diseased arm, but returned "*pari passu*" with the healing of the wound.

Examination of the amputated limb revealed extensive necrosis of the humerus. The lower third of the shaft had already been cast off piecemeal. The upper two-thirds remained imbedded as a single mass in the newly organized

tissues. The periosteum was every where thickened, softened, and more or less confounded with adjacent soft parts. The new bone was spongy, vascular and ill conditioned. The head of the humerus proved to be a mere shell of osseous matter covered by, but easily separable from the cartilage of incrustation. The capsular ligament was thickened, unnaturally short, and fused with the tendons of the rotator muscles. The glenoid cavity of the scapula was found intact, although it was feared, before the operation, that a portion of the last named bone, including its articular cavity, would have to be removed.

The cartilages covering the trochlea and radial head of humerus and the glenoid and sigmoid cavities of radius and ulna were injected, while the soft parts around the elbow joint were thickened. There was partial fatty degeneration and atrophy of all the muscles of shoulder and arm.

Caries of Os Calcis—Diseased Bone Extirpated.

Case iv.—Jas. Nubie, a pale, thin, light-haired, blue-eyed boy of 14 years, suffering from "sore heel," presented himself for examination May 15th, 1858. The os calcis gave decided evidence of serious disease. The whole heel was enlarged and distorted. The skin, seamed and wrinkled with old cicatrices, was perforated by several cloacæ leading to the cancelous structure of the affected bone. The cause of the affection could not be traced. The patient's account was, that he was seized with violent pain in the left heel while returning from a fishing excursion 18 months ago. The pain persisted and increased in severity. A physician was called. The foot was poulticed. Subsequently, lanced again and again. Pieces of bone were removed. Pain diminished, but discharge of pus, with minute osseous fragments, continued. Treatment availed but little. Patient became a confirmed cripple, and general health failed.

It was decided to extirpate the os calcis, and the operation was performed, with the patient under the influence of

chloroform, May 19th, 1858. Two incisions were made through the integument. One vertical—the other horizontal—the latter, reaching from the outer side of articulation with the cuboid, encircled the posterior end of the calcaneum, and stopped an inch behind the same joint on the inside of the foot. The latter descended vertically from a point an inch and a half above the lower attachment of the tendo achilles, to the first. The hinder end of the diseased bone was laid bare. The tendo achilles severed. The outer surface of os calcis was uncovered. The tendons of the two peronei liberated, turned forward, and the middle fasciculus of external lateral ligament was cut. The posterior calcaneo astragaloid articulation was entered, the strong interosseous ligament divided, and the anterior joint of the same name penetrated. The calcaneum was next freed of its connections with the cuboid and the short exterior muscle, and its under surface exposed. Lastly, the bone was separated from its attachments to internal malleolus and scaphoid, and was removed.

The requisite dissections were necessarily prolonged and tedious, owing to the unnatural dimensions and shape of the bone, the thickening condensation and adhesions of the periosteum, and the desire to avoid injury to plantar vessels and nerves, as well as the tendons of posterior tibial and long flexor muscles. The hemorrhage was slight, and no ligatures were required. The three flaps resulting from the operation were brought together and secured by straps and interrupted suture—a compress being applied over the sole of the foot and a firm bandage from the toes to the ankle. The patient was put to bed with the foot elevated and covered with cloths wet with iced water. Several doses of laudanum were administered during the afternoon.

A plan for irrigation was adopted the day after the operation, and the cold water treatment being thoroughly adhered to throughout. The cure was slow. Adhesion of the inner side of the wound was immediate, but profuse and long continued suppuration of the cavity formed b

moval of the bone, occurred. The patient was terribly reduced at one time by diarrhœa caused from a surreptitious meal of "elegant cherries." Cicatrization of the whole wound was, however, at length attained, and 60 days after the operation he was taking the air with a single crutch. He subsequently recovered completely the use of his foot, extending it to a degree and with a power that might almost lead us to believe the heel bone and gastrocnemia useless appendages.

ART. IV.—*What to Observe at the Bedside.* By ROBERT S. POWELL, M. D., of Brunswick County, Virginia.

HAVING experienced the great difficulty which is generally attendant on physicians beginning the practice of medicine, as regards what to observe, I propose to offer a few considerations in regard to the same. As the aspiring youth returns from some medical college, with his brain freighted with theory, and offers his services to the public, he is too apt to imagine himself well qualified for the onerous duties of the profession. This delusion is based on the fact of the great difference existing between the study and practice of medicine. The one a pleasant and agreeable thing; the other calculated to produce every sensation to which the nervous system of humanity is liable. As the well built and stable ship, floating over the stormy sea to some distant port, hardly experiences the first storm ere she is shipwrecked and tossed to atoms by the tempestuous waves, thus so many of the noble hearted youths of our country walk forth in the arena of life to contend with the almost innumerable foes of humanity. But too often that boasted theory, amidst scenes of embarrassment and confusion, is wanting, when applied to a practical purpose, and the timid physician is left a mere cypher in the healing art. Too often the exhortation of friends to dissipate disease, and pre-

vent the iron grasp of death from some cherished one, subserves the deleterious purpose of dethroning his reason, and confounding his rational and logical views of the case. Thus, do many in the commencement become weary of a profession so pregnant with the welfare of human life, and retire to seek some more congenial occupation—one at least that does not involve the destiny of the bodies and souls of men. It seems to me that all of this embarrassment and confusion of mind might be easily dissipated by the following few sober considerations:

1. That the Great Author has decreed death the common lot of all.

2. That a judicious administration of medicine is not the prima facie agent in conducting disease to health, but the vis medicatrix naturæ.

3. That medicine only co-operates with the life force to remove obstructions to health.

If a calm self-possession be preserved, at the same time bearing in mind the above simple propositions, I care not how great or portentous the issue of the moment, how tempestuous the raging billows of the stormy sea—like a noble ship, he rides the waves, and declares the victory won.

To feel a few pulsations of the radial artery, with a very slight inspection of the tongue, too often serves as a foundation for the diagnosis of diseases by medical men. By this careless mode of examination, they not only frequently suffer very justly the reproach of maltreatment, but diminish, to a great extent, that high position, which, in order for the profession to be properly sustained, it imperatively demands.

Charlatans, nostrum venders, and imposters of various descriptions have made a considerable inroad upon the science of medicine; and therefore every defect of the truly professional man, in the exercise of his profession, will greatly serve to facilitate the onward yet direful march of empiricism. All have observed the exceeding susceptibility of the people of this continent to "the mysterious," and some of them preferring to believe the glowing accounts

(now too prevalent in almost every literary journal), where some potent remedy has put to flight the most vile and malignant diseases, yet many, worn out and disgusted with the non-effectual action for the better of this boasted panacea, fall back upon the pure principles of the profession for aid. One may flourish for a while by getting up a reputation for having a king cure-all or specific for some particular disease, whose composition is enveloped in the mantle of secrecy; but this glory can only be ephemeral; for as soon as the light of reason and truth shines upon it, it vanishes if worthless; and if not, reflects a censure on the one whose sole object is pecuniary gain. This is an age in which plus pecunia takes the lead, and no effort is spared by the worshiper of gain to accumulate; and therefore I have but little doubt that articles of the materia medica are compounded by men wholly ignorant of their chemical properties or constitutional effects, and vended to a credulous world to wipe from its face a particular pain, or exterminate a cancer. And many votaries of the "mysterious" sacrifice fortune and health for some such magical compound, and even suffer themselves to sink rapidly to the tomb, exercising strong faith in its all-curative powers.

From the days of Hippocrates to the present, the profession has been sustained by strict adherence to rational principles, and ignoring every thing that did not bear the investigation of truth and reason. Therefore, since the present age is more replete than ever with foes to our profession, we should be more scrupulous than ever in our observation, bearing in mind that attention to minutia constitutes the difference between what the world terms a good and bad physician; and that science

"Can walk alone the truthful road."

TRANSLATIONS AND SELECTIONS.

I. *Chloroform and other Anæsthetics.* From the Westminster Review. (Concluded.)

Since the anæsthetic powers of ether, chloroform, and other kindred substances, were discovered, their employment during all important surgical operations has become so invariable and universal in all civilized countries, that any discussion concerning the safety or danger, the benefits or evils, of the custom, would, we believe, fail to modify it in the slightest degree. The blessing once experienced is not likely to be relinquished by either patients or surgeons, unless the proportion of fatal cases of anæsthesia should so increase as to terrify them with fear of death. We are not apprehensive of such a result, but feel on the contrary some confidence that the proportion of such cases will diminish. Assured, therefore, that surgical anæsthesia will continue to be practiced to the full extent to which it has become established, we shall restrict our attention throughout the remainder of this article to an enquiry into the safety and expediency of inducing anæsthesia in women during childbirth.

In noting the differences of opinion on this subject, it is instructive to observe the great extent to which they are the products of local influence. In Boston, where ether was first used as an anæsthetic, it was not only generally employed in all surgical operations, but Dr. Walter Channing, one of the most eminent obstetricians, we believe, of that city, set the example of administering it in all cases of labor, and with the happiest effects; while, in Philadelphia, Professor Meigs, who, in respect to midwifery and its collateral topics, is regarded as the highest authority in America, objects to the use of anæsthetics in labor under all circumstances. In Edinburgh, where the anæsthetic powers of chloroform were discovered and applied, scarcely a woman is "confined" without drowning her pains in the Lethe of that fluid, with the sanction of one of the most distinguished obstetric professors in Europe; whereas, in the third edition of the classical work of Dr. Ramsbotham of London, on "Obstetric Medicine and Surgery," the author writes, in 1851, of the uses of anæsthetic agents, as follows: "I w

hesitatingly declare my conviction that the treatment is fraught with extreme danger; and that it will at no very distant time, unless, perhaps, in some exceptional cases, be banished from the practice of the judicious obstetric physician"—p. 154.* This opinion is shared by Dr. Robert Lee, a physician distinguished alike by his physiological discoveries and by his valuable contributions to obstetric science. He steadily sets his face against both ether and chloroform, and throughout his extensive metropolitan practice has to this day refused to administer either the one or the other.

When doctors differ, it is no doubt difficult for the public to decide; and the widely-differing extent to which the practice of anæsthesia during childbirth is carried in different places, is a striking instance of how greatly the public is influenced and led by the counsels, and perhaps by the prejudices of its physicians. The question which we are about to discuss is one of direct and supreme interest to all women, and, as affecting them, deeply concerns mankind as a whole; moreover, unlike many medical questions, it is one respecting which a judgment sufficiently accurate for practical guidance may be formed by non-professional persons; fortunately, therefore, even if in this instance doctors should continue to differ, the public may decide. Strange to say, few subjects in the medical world have raised a more intense party spirit and more personal animosities than this of the expediency of inducing anæsthesia during labor. The contest still rages fiercely, and while these professional battles are being fought, millions of mothers are suffering agonies from which, according to the advocates of anæsthesia, they might be surely and safely saved. These considerations compel us to change the field on which this great question is to be decided, to appeal from physicians to patients, from the profession to the public. We believe that until the public judges for itself, no final judgment will be pronounced. In order to insure such a judgment we shall now present all the necessary data, including the depositions and arguments of both sides. Though the presentation of this evidence may involve the cognizance of facts not usually discussed in a non-professional journal, we feel assured that, in view of the vast amount of human happiness which is at stake, no earnest reader, whether man or woman, will shrink from examining them. Let us add the expression of our

* As one more proof of the dangerousness of prophecy, and as evidence that the opinions of Dr. Ramsbotham are slowly undergoing a change, we may mention our inability to find in the last edition of his work (1856), the unhesitating *declaration* which we have printed in the text.

conviction, that no rightly and healthily constituted mind will experience the slightest offence to its delicacy by an earnest study of the organism through which it works, and of the laws which govern it.

Professor Meigs' reasons for not using any anæsthetic agent in the practice of midwifery, are as follows:

1st. That in cases requiring surgical intervention the sensations of the patients are the best guide for the introduction of instruments.

2d. That in cases of natural labor the pain should not be annulled, because it is "a most desirable, salutary and conservative manifestation of life force."

3d. That the pain of natural labor is "a physiological pain."

4th. That by escaping this "physiological pain," the mother incurs a risk of injuring her health, or of losing her life.

5th. That by enduring this pain she endangers neither the one nor the other.

Dr. Ramsbotham's tangible arguments against inducing anæsthesia, when not identical with those of Professor Meigs, may be stated as follows:

1st. That when a woman is in a state of anæsthesia, more or less deep, the uterine contractions are often impaired or arrested, or, to use his own words, that anæsthetic agents "interfere with the reflex or automatic actions, the perfection of which is necessary to the expulsion of the child."

2d. "That so subtle and diffusible an agent as chloroform or ether, after permeating the whole of the maternal system, may penetrate the child's, and produce its peculiar influence upon the tender organization of the new being, as well as on the mother's;" and that, therefore, according to the opinions of numerous authors, it *may* result in "*injury to the child.*"

3d. "That the degree of anæsthesia requisite to annul the pain of labor cannot be induced without endangering the life of the patient."

4th. "That the action of this class of medicines is so uncertain and capricious, that the same person is very differently affected by them at different times;" that "females, and those the most delicate," are likely to "be most easily and most dangerously affected" by them; and that under no circumstances is the constitution of a woman likely to "be so susceptible to their peculiar action" as during pregnancy and labor.

5th. That "pain must be looked upon as an *essential element* in the functions of parturition; and if it be removed,

the function is imperfectly performed, as wanting one of its chief characteristics."

6th. That anæsthetics are known to have induced puerperal mania; "that paralysis has *followed* their administration, and that puerperal convulsions are to be dreaded as likely to supervene on their use."

7th. That to render a woman anæsthetic by ether or chloroform, she must either be made "*dead drunk*," or, at least, must "be reduced to that condition which the law designates as '*drunk and incapable*,'" and that "if the case were put fairly and honestly before them," few "of our high-born dames," of women "possessing common feeling," or of those "removed above the very lowest orders of society, would be found to avail themselves of the immunity from suffering which anæsthetics hold out, at such a price, and at such a sacrifice of moral obligations."*

8th. That to destroy consciousness by inducing anæsthesia is to annihilate "for a time the proudest and choicest characteristics of humanity."

This formidable array of arguments and objections is fairly representative, we believe, of the principles which have animated all opponents of anæsthesia in the practice of midwifery; therefore, the evidence and reasoning adducible in reply to Professor Meigs and Dr. Ramsbotham, may be regarded as effectually exhausting this part of our subject. The objections of Professor Meigs have, in our opinion, been completely disposed of in a letter addressed to him by Professor Simpson—a letter distinguished alike by its broad philosophical views, sound reasoning, and tender sympathy with human suffering. Without confining ourselves to the arguments it contains, we shall freely avail ourselves of them in the following discussion.

Objection I.—If, as Professor Meigs states, the sensations of the patient are the best guide for the application of instruments in cases requiring surgical intervention, it is not a little remarkable that, until he announced this dictum as an argument against anæsthetics, no trace of it is to be found in his "Philadelphia Practice of Midwifery," which for several years has been a text-book for students; and that all other authors omit the inculcation of a like precept. In fact, if the expression of these sensations were depended upon, they would often only betray: "under the same

* From the last edition of Dr. Ramsbotham's work, all the "high-born dames," the women "possessing common feeling," and even those "removed above the very lowest orders of society," have alike vanished, their places being occupied *only by the* meagre pronoun "her;" and, alas! that we must tell it, "moral obligations" have no longer an advocate.

amount of pain, scarcely any two women would give exactly the same expression of suffering. What one woman would loudly complain of, another would declare to be nought." But even were there not this fatal objection against trusting to the sensations of the patient for guidance, surely a man who ventures on surgical intervention, "ought to know the anatomy of the parts implicated a thousand fold better" than the precept of trusting to the sensations of the patient presupposes. What would the surgical world think of an operator who, when passing a ligature round a large artery, should place his chance of discriminating the attendant nerve from the artery "by appealing, not to his own anatomical knowledge, but to the feeling of his patient, as he touched the suspected structures?"

Objection II.—If the pain of labor is "a most desirable, salutary and conservative manifestation of life force," as stated by Professor Meigs; if, according to Dr. Ramsbotham, it is "an *essential element* in the function of parturition," and if, therefore, it is wrong to annul it, the same argument must inevitably condemn the physician as a wrong-doer when lessening or annihilating pain in any case. All physical pain, viewed as a physical conscience, must be considered as salutary—as pointing out that the structures in which it is seated are in danger—and we know that, as a general rule, its admonitions may not be neglected with impunity. But shall we therefore, while striving to remove the cause of suffering, refuse to alleviate the suffering itself? Is no narcotic palliation of the agonies of cancer permissible, because those agonies are but the too truthful declaration that the structures involved are being destroyed? Is it immoral to lessen the tortures of toothache by creosote, because they are nature's indication that the tooth in question is undergoing decay?

Objection III.—Both Professor Meigs and Dr. Ramsbotham evade these questions by seeking to establish a distinction between the essential nature of the pain attendant on structural injuries or disease, and that of labor. They call the former "pathological," the latter "physiological," and then refuse to annul the pain of labor, because it is physiological. Assuming the correctness of the distinction, the logical process by which they draw from it their precept, that physiological pain must not be annulled, exceeds our comprehension. But we deny the validity of the distinction itself. Each structure is provided with nerves to take care of itself, and when any given structure is involved in a process, howsoever purely physiological, by which its integrity is endan-

gered, or its functions impaired, those nerves give warning of the peril: pain is experienced, varying in degree from insignificant twinges to throes of agony, according to the danger encountered. The pains of parturition are of this kind.* All those circumstances, such as imperfect health, malformation, and advanced age, which conduce to increase the difficulty and pain of "natural labor," do so by exposing the structures involved to more than ordinary danger; therefore the nerves distributed to each denote that danger by more than ordinary pain. They utterly ignore the fact that the process which is endangering the structures over which they preside, is a "physiological" one, and rightly, too, for the danger to the individual structures is no less real than if incurred from any other mechanical cause, and is in no respect different in kind. Those who maintain that the pain of labor is *sui generis* ought to be able to demonstrate the essential difference between the neuralgia caused by the pressure of an aneurismal tumor, and that caused by the pressure of the gravid uterus. But we imagine they will find it hard to do so; and yet they will surely recognize the latter by the newly invented epithet, as "a physiological pain." Moreover, the groundlessness of the attempted division of pain into two kinds—"pathological" and "physiological"—is still more decisively proved by the numerous instances, even in civilized life, in which child-birth is accomplished with little or no pain, and by the evidence of many trustworthy authorities that such is the general characteristic of whole tribes of the human race. In view of these facts the physiologist is fairly entitled to affirm that normal parturition is all but painless, and that all pain incidental to the process in civilized life, in excess of that experienced by the women of savage tribes, is abnormal; and therefore, even according to the principles of Professor Meigs and Dr. Ramsbotham, of the "pathological" and not of the "physiological" kind. But without pushing the argument so far as to determine what amount of pain is consistent with the purely normal process of parturition, we feel assured that impartial judges will see in the foregoing considerations conclusive evidence that the essential nature and function of pain are identical in all structures and in all cases; that, therefore, labor pains are, with reference to the individual structures involved, as much pathological as any other: and that, if in any case, "it is the office of a physician," as Bacon says, "not only to restore health, but to

* We are prepared to show that this remark is applicable to the pains of the *very first*, as well as to the subsequent stages of the process.

mitigate pain and dolours," there is no valid reason why he should refuse to mitigate or annul the pains of labor.

Whatever may be the philosophical or unphilosophical view of parturient pains, there can be no doubt, we presume, that their indication is the same, viz: to remove their cause as soon as possible. Now, if the presence of those pains will not hasten the expulsion of the fœtus—the pressure of which on the maternal structures is producing them—if the pressure must be endured until the expulsion is accomplished; and if the suffering incidental to this pressure, and increasing in proportion to its amount and to the constitutional susceptibility of the patient, may be annihilated without arresting or even impeding the expulsive forces employed, we are utterly at a loss to comprehend how, as alleged by Dr. Ramsbotham, the annihilation of such suffering is the annihilation of "*an essential element* in the function of parturition, and how, wanting this chief characteristic," the function is imperfectly performed. We believe all physiologists agree that the *essential* element of labor is the contractile force of the uterine and abdominal muscular fibres; and the recorded experience of many eminent obstetricians—English, Continental and American—yields abundant and incontrovertible evidence that, for the efficient activity of that force, pain is in no degree essential, and that by judicious management it may be entirely annulled without lessening the rapidity of the parturient process.

Objection IV.—We say *by judicious management* advisedly, for undoubtedly anæsthetics *may* be so administered as to justify completely the allegation of Dr. Ramsbotham and others—that when a woman is in a state of anæsthesia, more or less deep, the uterine contractions are often impaired or arrested. In order to appreciate this objection at its worth, it is essential to have at least a slight knowledge of the nervous system. In man, and in all the higher animals, the nervous system consists of two great divisions, which differ from each other in appearance, arrangement, structure and function. One division comprehends the brain, spinal column, and all the nerves which branch from these great centres. It is called the cerebro-spinal system. The other division is constituted by a series of nuclei (ganglia) of nervous matter, disposed on either side of the vertebral column, extending from the upper part of the neck to the lowest central bone of the trunk of the body, the extremity of the sacrum, and connected together by intermediate nervous bands.

Thus united, these ganglia form two knotted cords. The

ganglia in each cord correspond in number to the vertebræ, except in the neck, where only three ganglia commonly exist. The superior ganglia in the neck send branches upwards into the head; these communicate with nearly all the cranial nerves, and, by means of several small ganglia in different parts of the skull, seem to connect the upper ends of the two cords with each other. Throughout the entire course of each cord the ganglia on either side of the vertebral column send filaments to every corresponding branch of spinal nerves, and the lower ends of the cords are united in a single ganglion in front of the extremity of the sacrum. The two cords, linked together as they are both at their upper and lower ends, thus form a sort of endless chain. Its chief constituents—the ganglia—not only send branches to the spinal nerves, as just stated, but also to the blood vessels, and to the different viscera of the body. These ramifications are affected by means of numerous intermediate plexuses, in which filaments from the cerebro-spinal system are generally interwoven, and from which the distributive branches ultimately diverge. This remarkable division of the nervous system has received several names. Bichat, who supposed that it alone influences the organic processes, termed it the nervous system of organic life; but it is more generally known as the sympathetic nerve.

The functions of the cerebro-spinal system comprise the reception of sensations and expressions, and their transmission to the spinal column and brain, the formation of ideas, the generation of mental emotion, consciousness, intellection, volition, and the origination and direction of motion. Superadded to these functions, and standing as a mediator or connecting link between them and the functions of the sympathetic system, is the distinguishing function of the topmost part of the spinal column—the medulla oblongata—which presides over that partly voluntary, and partly involuntary act, respiration.

The functions of the sympathetic nerve are generally believed to be those ascribed to it by the great Bichat.* It presides over and regulates the processes of organic life, and thus originates and sustains those actions which are essential to the existence of the individual and the continuation of the species. In proportion as any organ is under the control of the sympathetic nerve, are its operations withdrawn from the sphere of the will. The sympathetic nerve governs exclusively the greater part of the alimentary canal,

*See the article, by Dr. Drummond, on the Sympathetic Nerve, in the Cyclopædia of Anatomy and Physiology.

and all those glands whose action is continuous—as, for example, the kidneys. It shares with the cerebro spinal nerves the control of those glands whose functions are occasional, the lachrymal, salivary and mammary, for instance—a large supply of tears and saliva being needed only now and then, and milk being absolutely useless, except at far distant and irregular intervals; by means of its ganglia and their branches, imbedded in the muscular substance of the heart, it is the source of its continuous action, and extending its twigs along the great blood vessels and their countless ramifications, "as ivy embraces the trunk and branches of a tree"—to use the words of Dr. Carpenter—it presides over the nutritive processes which are continuously going on in all parts of the body, and imparts its vital influence to the whole vascular system. It causes the iris to contract when the eye is exposed to too much light, and acting on the minute muscles of the internal ear, it also exercises its vigilant guardianship over that delicate organ; and, lastly, for more effectually securing the continuance of the species, the reproductive organs are chiefly under the dominion of the involuntary or sympathetic system. Like the heart, the womb is abundantly supplied with ganglionic plexuses of nerves, and their ramifications, chiefly from the sympathetic system;* and hence, like the heart, its action is independent of the will; and hence "it continues its contractions with little, if any, interruption, for a long time after its principal cerebro-spinal connections have been destroyed."† This fact is proved incontestably by the occurrence of labor in cases of complete paralysis of the lower parts of the body, and also by the post-mortem power of contraction, which is sometimes retained by women, "whose spontaneous delivery has taken place some time after all evidences of somatic life have ceased." Dr. Arthur Farre, from whose admirable article‡ the above passages are quoted, concurs in the opinion that though the womb is supplied with nerves, both from the cerebro-spinal and from the sympathetic systems, the former do but co-ordinate it into harmonious relations with the rest of the animal economy, while the latter "serves to regulate the functions which the uterus itself is capable of discharging without co-operative aid." He also observes, "It is obvious that psychical influences are neither

* Memoir on the Ganglia and Nerves of the Uterus. By Robert Lee, M. D., F. R. S. 1849.

† Professor Simpson mentions authentic cases of this kind. See Memoirs, vol. 2, p. 583.

‡ The Uterus and its Appendages, in the Cyclopædia of Anatomy and Physiology, parts 49 and 50. 1858.

necessary nor accessary to the simple act of labor. They may often be regarded as disturbing, but not as regulating forces."

Now, it has been found by experiments, that under the action of ether or chloroform the nervous centres lose their powers in regular succession. First, the cerebral lobes lose theirs, and then consciousness, with the intellectual and emotional faculties, is arrested; next, the cerebellum loses its power of regulating locomotion; next, the spinal cord becomes incapable of sensation and of originating motion, but the medulla oblongata, which presides over respiration, still retains its functions. Next, the medulla oblongata is affected; when this occurs, breathing ceases, and death is near; but even yet the ganglionic nerves of the sympathetic system still perform their functions, and the heart and intestines continue to move for a time often with vigor. Thus, when anæsthetic vapors are inhaled, the different nervous centres lose their powers in the *inverse* order of their essentialness to life: the function of the sympathetic nerve ceasing last of all, and the heart and womb retaining for a time, therefore, their contractile power during states of anæsthesia so deep, as not only to involve the annihilation of consciousness and sensibility, but also of respiration.

In order to render a patient insensible to the most severe surgical operations, it is never necessary to proceed further than the third stage of the anæsthesia. In other words, it is only requisite to arrest consciousness and the sensitive power of the spinal nerves, the medulla oblongata and the sympathetic ganglia being left unaffected. But, as is proved by the evidence of many witnesses, the state of anæsthesia requisite to annul the pains of labor is far less deep than that which is requisite to annul the pain of surgical operations. Indeed, it is found that by proper management, a woman may be saved the pains of labor, and yet be kept on the borders of consciousness, and often conscious, all the time. "It is quite possible so to regulate the dose (of chloroform) as to affect the sentient nerves only, and not the rest; pain may be relieved, if not removed, and the intellect remain undisturbed."* Dr. Rigby's experience corroborates this statement. The experience of Dr. Ramsbotham constrains him to affirm that "sensibility may be greatly blunted without entirely destroying consciousness; and thus a soothing effect may be obtained, while the integrity of the mind is preserved tolerably perfect."† Dr. Snow says, "There

* Murphy, Chloroform in Childbirth, p. 51.
† Obstetric Medicine and Surgery, p. 175. Fourth edition. 1856.

are comparatively few cases in which the suffering can be prevented throughout the labor without interfering with consciousness, although there are very many cases in which it can be in this way prevented in the early part of the labor"—p. 319. Considering the two-fold nature of the nervous system, the order in which anæsthetic agents act on its several parts, and the relative degrees of anæsthesia which are necessary to annul the pain of surgical operations and the pains of labor, and assuming that there exists no known element which may modify those here recognized, only one conclusion is possible, viz: that when ether or chloroform is properly administered, the pangs of parturition may be abolished, without weakening the expulsive contractions of the womb, or impeding the accomplishment of the parturient process.

This conclusion, deduced from the physiological data which we have presented, is confirmed by the experience of numerous authorities. "I have not in my own practice," says Dr. Channing, "met with a single instance in which diminution or a suspension of contraction had occurred, which had differed from those in which these same things have happened without ether."* The testimony of Murphy and of Simpson is to nearly a similar effect. "In the great majority of cases," says Dr. Churchill, "it [chloroform] does not interfere with the labor pains [uterine contractions], except by suspending all *voluntary* exertions, if the insensibility be complete."† In a paper by M. Blot—"De l'Anésthésie appliquée à l'Art des Accouchements"—it is stated that "L'Anésthésie peut atténuer, supprimer mème les douleurs de l'accouchement, sans suspendre les contractions de la matrice, ni celles des muscles abdominaux." M. Spiegelberger of Bonn also asserts that anæsthesia, to the extent of annulling sensation, arrests in no degree the uterine contractions.‡ The testimony of Dr. Snow is equally decisive: "The external evidences of the uterine contractions continue as before, when the patient is rendered unconscious by chloroform; and the muscles of respiration are called freely into play, to assist the action of the uterus in the second stage of labor. The aspect of the patient under these circumstances is generally that of one who is suppressing the expression of her sufferings; and any relative or friend who comes in, without knowing that chloroform has

* Etherization in Childbirth, p. 42 and 233.
† Theory and Practice of Midwifery, p. 218. 1855.
‡ Annuaire Général de Science Médicale, pp. 91-2-3. Par A. Cavasse. 1857.

been given, begins to praise the unconscious patient for her fortitude"—p. 312.

On the other hand, several distinguished obstetricians have stated that chloroform sometimes suspends the contractions. We are prepared to believe that it occasionally does so when the anæsthesia induced is deeper than needful. But in such cases the retarding influence is immediately removed by withholding the chloroform; and in the majority of instances, where any weakening of the expulsive action occurs, it is more than compensated for by the great and generally acknowledged extent to which chloroform facilitates parturition through its extraordinary power of relaxing the muscles and other parts concerned in the process. Reviewing all the evidence now adduced, and giving the utmost weight fairly due to the statements that chloroform sometimes suspends uterine contractions, we are compelled to conclude that those statements constitute no valid objection to the inhalation of anæsthetic vapors in order to annul the pains of labor.

Objections V and VI.—It is alleged that the induction of anæsthesia during labor may injure the health both of the mother and of the child. The briefest and best reply we can make to these two objections is, the statement that, so far as we can learn, not one authentic fact is forthcoming in support of them, although chloroform and ether have been given to tens of thousands of women during the last eleven years. It is desirable, however, that our readers should know upon what these objections are founded. Dr. Ramsbotham records a solitary case of a lady in which puerperal mania "*supervened* on the exhibition of chloroform," and then bases on this slight foundation the terrible charge that chloroform has *caused* puerperal mania. This case, which occurred in 1848, is, we believe, the only one in which it is even alleged that chloroform has induced that frightful malady. If it had any tendency to do so, we should certainly have heard of it again, seeing how extensively it has been used during labor since that time. Moreover, as puerperal mania used to occur before chloroform was discovered, perhaps it is scarcely logical to conclude that, as in a single instance puerperal mania "supervened" on the use of that agent, therefore in that instance it caused the disease. And, in fact, this conclusion is completely discredited by the extensive experience of obstetricians since 1848. It is now well ascertained and generally acknowledged that the effects of inhaling chloroform are not only immediate but tempo-

rary; that after inhalation ceases, whatever amount of it may have been absorbed by the blood, is quickly eliminated from the system, and that therefore it cannot induce a permanently abnormal condition such as puerperal mania.* This reasoning is equally applicable by way of answer to Ramsbotham's statement, that paralysis *has followed* the use of chloroform. This statement is also based upon the experience of a solitary case. It would be easy to show that a thousand dreadful maladies have *followed* on the use of chloroform, but it would not be easy to show any casual connection between its use and those maladies. Puerperal convulsions are also to be dreaded, according to the opponents of anæsthesia, as a result of chloroform. Dr. Ramsbotham cites several witnesses in proof of this opinion. But here again occurs the impossibility of distinguishing between the post hoc and the propter hoc; while, on the other hand, the doctor himself tells us that "cases are recorded of puerperal convulsions cured by chloroform." Professor Simpson says, "Chloroform seems generally capable of reducing and keeping in abeyance one of the most common and most fatal complications in difficult labor—namely, puerperal convulsions."† Dr. Channing records ten cases in which ether was used. Six recovered. "This," he observes, "is very striking success."‡ Dr. Churchill presents the evidence of numerous authorities and of his own experience to the same effect, and says, "Certainly, so far as we can judge of the cases [of convulsion] on record, it [chloroform] appears a most valuable and successful remedy."§ Dr. Snow's enquiries led him to the same conclusion—p. 337–8. Respecting the dreaded effects of anæsthetic vapors on the child while yet unborn, we repeat that no case has been adduced to illustrate them. It was alleged that, while the mother inhales chloroform, the pulsations of the child's heart are accelerated to such a degree as to become too rapid to be counted, and as a result, effusions, convulsions, idiocy, &c. were anticipated. In the words of Professor Simpson, "The above premises are as gratuitous as the conclusions." Professor Siebold found the action of the child's heart "quite unaltered, not the slightest change in its frequency and re-

* Dr. Churchill mentions a case of puerperal mania, in which he "tried the inhalation of chloroform, and with great benefit"—p. 648. Such a result might be fairly expected, seeing that in this disease, as stated by Dr. Ramsbotham, "of all internal medicines, narcotics are the most valuable"—p. 591.

† Memoirs, vol. 2, p. 783.

‡ Ætherization in Childbirth, p. 308.

§ Theory and Practice of Midwifery, p. 493.

gularity being detected."* But though the well-being of the child is not endangered by the maternal anæsthesia, a very striking case is recorded by Dr. Simpson, and another by Dr. Snow, in which violent infantile convulsions were completely and permanently arrested, and, we are fairly entitled to presume, life saved by the inhalation of chloroform. It seems to us that the two objections to chloroform which we have last examined are entirely without foundation, and that neither ether nor chloroform, if properly used, is capable of injuring the health of either mother or child. On the contrary, as Professor Simpson states, and as stated by many other practitioners, "chloroform, by saving the constitution of the patient from the pain attendant on the process of human parturition, saves her strength and constitution, expedites her convalescence, and renders her proportionably less liable to the various affections which occur in the puerperal state."†

Objection VII.—The argument of Drs. Ramsbotham and Meigs, that to induce anæsthesia more or less deep, is to render the patient "dead drunk," or at least "drunk and incapable," Dr. Murphy answers, by asserting "that the anæsthesia of chloroform has not the least resemblance to drunkenness; they have not a symptom in common." We cannot confirm this unconditional assertion, and shall have occasion hereafter to show to what extent the physiological action of anæsthetic vapors is identical with and different from that of alcohol; meanwhile, for argument's sake, we are prepared to assume that the action of those vapors is like to that of alcohol. But what if it is? Opium and Indian hemp are celebrated for their intoxicating qualities, and are extensively used on account of those qualities, and yet physicians prescribe them, and "high-born dames" take them without the least compunction. If anæsthesia be desirable as an antidote to suffering, and if it is most easily induced by means of agents which act in a manner like, in some respects, to the action of alcohol, it is mere childishness to allege that, because alcohol (which is akin to anæsthetic vapors) is misused by fools to cause drunkenness, it is degrading and immoral to use ether or chloroform to induce anæsthesia. The argument, if argument it can be called, proves too much. If when fairly stated to our "high-born dames," or to women of any rank, it ought at once to constrain them to "banish anæsthetic vapors from the lying-in

* Medical Gazette, 11th June 1847. Quoted by Simpson, vol. 2, p. 639.
† Memoirs, vol. 2, p. 783.

room," by what logical plea could they be saved from banishment altogether? If because ether and chloroform are alleged to induce intoxication like to that of alcohol, women possessing common feeling and removed above the lowest orders of society, ought to shrink from availing "themselves of the immunity of suffering which anæsthetics hold out at such a price, at such a sacrifice of moral obligation," by what dispensation can they escape from this same moral obligation, in order to avoid the pain of those surgical operations which fall to the lot of their sex? Moreover, as according to the homely proverb, "What is sauce to the goose is sauce to the gander," we presume the moral obligation just indicated is binding on men as well as on women. If so, then the moral code of Drs. Ramsbotham and Meigs and of their co-opponents to anæsthesia, forbids the induction of insensibility to all persons in all circumstances. Are they prepared to be logical to the extent of this sweeping exclusion? If not, we hold their argument to be utterly worthless. In a work bearing the notable title, "The Human Body and its Connections with Man," we remember to have seen an array of reasons why "women are sometimes called angels." Perhaps Drs. Ramsbotham and Meigs regard them as such, and believe that the ethical principles which animate them (or, alas! that we must say, which *ought* to do so) are of an order too exalted to be applicable to men whose obtuser moral perceptions allow them to indulge in the drunkenness of anæsthesia without losing their self-respect. We shall not venture to dispute the correctness of this very interesting view of the relative obligations of the two sexes; but we fear that the "angels" will disclaim the transcendental morality ascribed to them, and will degrade themselves to the level of men, if, by so doing, they may escape the agonies which it calls upon them to endure. The only other shadow of a reason we can think of for urging women voluntarily to comply with the requisitions of a moral code which men are not expected to observe, and which only the direst necessity could force them to submit to, is contained in the novel doctrine already described, concerning the twofold nature of pain. We have demonstrated how wholly unphilosophical and baseless that doctrine is; therefore, if the argument that women cannot avail themselves of anæsthetics during labor without a sacrifice of moral obligation, be good for any thing, its supporters must accept one or other of the two following conclusions: either the moral law forbids the use of anæsthetics altogether as well by men as by women, or there are two moral laws on the same sub-

ject—one for men and another for women—each differing so essentially from the other as to prescribe two precisely opposite courses of conduct.

Objection VIII.—If it be sinful to annul consciousness, "the proudest and choicest characteristic of humanity," physicians have a great deal to answer for. Every time they give narcotics they affect the consciousness, and, in a large proportion of cases, they are guilty of suspending it altogether. How often are opium, morphia, conium, hyoscyamus, and even Indian hemp administered in order to alleviate pain, and to drown it in sleep? Nay, the most earnest opponents of ether and chloroform we have met with, make free use of these very drugs for the very purpose of preventing pain, of annulling consciousness, of inducing sleep! But they who argue against the use of anæsthetic vapors because they destroy consciousness, are not only confuted out of their own practice—they are confuted by nature herself, who has ordained that we shall be deprived of consciousness each night, and who, when the agonies of childbirth become so intense as to be no longer tolerable, sometimes induces that complete state of both unconsciousness and anæsthesia, called puerperal convulsions.*

Objection IX.—We shall not attempt to lessen the force of the religious objections to anæsthesia during childbirth, by any grave arguments, with those who prefer the perpetuity of suffering (when not borne by themselves) to any acknowledgment of fallibility in their theological creed. With reference to this subject we shall perform only the function of the historian. Those physicians and priests who, in order to vindicate the consistency and unchangeableness of the God whom they worship, feel called upon to condemn the myriads of women now living, and those of the countless generations who will succeed them, to endure in the aggregate a sum of agonies beyond the power of the human mind to conceive of, are guided by a wisdom which "is not of this world," and which therefore we shall neither venture to discuss, nor, at the risk of being charged with impiety, attempt to understand. We may remark, however, in passing, that to our uninitiated and sublunary minds, there is something inexpressibly ludicrous in the consciousness of self-importance which inflates insignificant human creatures with the belief, that without their executive aid the ordinations of the Great Spirit will not be fulfilled.

"Along with many of my professional brethren in Scotland, and perhaps elsewhere," says Professor Simpson, "I

*See Murphy's Chloroform in Childbirth, p. 35.

have, during the last few months (1847) often heard patients and others strongly object to the superinduction of anæsthesia in labor, on the assumed ground that an immunity from pain during parturition is contrary to religion and the express commands of scripture." Not a few medical men refused to relieve the agonies of their patients, believing that to do so would be "unscriptural and irreligious." Teachers in medical schools denounced ex cathedra the impious conduct of Professor Simpson "as an attempt to contravene the arrangements and decrees of Providence, hence reprehensible and heretical in its character, and anxiously to be avoided and eschewed by all properly principled students and practitioners." The professor was also "favored," he tells us, "with various earnest private communications to the same effect." Women who were anticipating their time of "travail," consulted their clergymen as to whether they might let the cup of bitterness pass from them, or whether they must drink it to the dregs. According to the sense of their advisers, were the answers given to them. Some sufficiently hardened to dare to sin, and sufficiently tender to repent, first inhaled the tempting vapor, and obtained exemption from suffering; but afterwards tortured with remorse, besought their spiritual fathers for absolution.* A section of the clergy was of course not wanting to vindicate the well-earned reputation of all priesthoods as the most powerful obstructives to human progress. One of their body declared chloroform to be "a decoy of Satan, apparently offering itself to bless woman, but that in the end it will harden society, and rob God of the deep earnest cries which arise in the time of trouble for help." But to the honor of the priesthood we must add, that "some of the best theologians and most esteemed clergymen of all churches, Presbyterian, Independent, Episcopalian," &c., assured Professor Simpson of their approval of his views and proceedings; and that when Dr. Chalmers was consulted as to how the clerical opponents of anæsthesia in childbirth should be dealt with in an article on Ætherization about to be written for the North British Review, he advised that such "small theolo-

* That fear of eternal punishment operated in England as well as in Scotland, and that it still operates to constrain women to endure their sufferings, is manifest from a pamphlet just published. The author says, "There is a point which I approach with reverence and diffidence; *but as it has to my knowledge prevented many excellent persons from partaking of this blessing*, I do not feel justified in evading it. I mean the conscientious scruple that in childbirth the inhaling of chloroform is a wicked attempt to evade a prominent part of the curse. This would be a natural and reasonable thought in the unconverted Jew (!); but," &c.—"Chloroform and its Safe Administration," by W. M. Coates, Surgeon to the Salisbury Infirmary. London. 1858.

gians" should not be heeded. The opposition, however, of these "small theologians," both clerical and medical, was so formidable as to constrain Professor Simpson to consume twenty-four octavo pages of good paper and print, in attempting to silence them. His biblical learning is quite astonishing. He quotes Hebrew like a Rabbi, and labors to show that *etzebh*, sorrow, does not really mean physical and bodily *pain*, but toil, labor; that therefore the words, "In sorrow thou shalt bring forth children," have hitherto been misinterpreted, and that the true meaning of the original would best be rendered by the words, "In *labor* thou shalt bring forth children!"

Though wholly ignorant of Hebrew, we confess to some distrust of this ingenious version.* It is an universally acknowledged truth that in every part of the world, and as far back into the past as any records tell of, women have brought forth children *in sorrow*.† We are confirmed in this opinion by the eminent Hebrew scholar, Prof. Noyes of Cambridge, Massachusetts, who says, "I cannot agree with Professor Simpson that the Hebrew terms '*itztzabhon*,' '*etzebh*,' in Gen. iii. 16, refer merely or chiefly to the muscular exertion with which the child is expelled, without regard to the pain and trouble which attend it." To those whose biblical studies compel them to disclaim belief in the verbal inspiration of the Pentateuch, it seems more than probable that the author (or authors) of the Book of Genesis was profoundly impressed with the mystery of suffering, especially manifest in childbirth, and that hence, in order to account for it, the touching and beautiful myth of Eve's temptation and fall. We cannot but regret, therefore, that Professor Simpson should have attempted to divest this poetical narrative of one of its most essential elements, in order that his ever-memorable application of anæsthesia to midwifery might find favor in the eyes of modern bibliolaters. We cordially concur in the opinion of Prof. Noyes, "that the cause of science and benevolence in which," as he says, Professor Simpson and Dr. Channing, to whom he

* In a new translation of the Book of Genesis, by a Jew, Dr. Kalisch, who is distinguished alike by his scientific and philological knowledge, the passage in question is rendered thus: "To the woman He said, I will indeed multiply thy *pain* and thy conception; in *pain* shalt thou bring forth children." And in a note to this passage the Doctor, speaking of Eve, says, "She also suffers a three-fold curse: *agonizing pain in her travail*," &c.

† "Although childbirth is in the east considerably easier than in more northern climes, it is frequently most painful, and not seldom fatal; so that a heart-rending cry of despair and anguish is, in biblical language, compared with the cry of a woman in travail."—*Historical and Critical Commentary on the Old Testament, with a New Translation.* By M. M. Kalisch. Phil. Doc., M. A. Genesis. *1858.*

writes, "are engaged, is not likely to be relieved by mere Hebrew philology from the opposition which is made to it. More general considerations must be relied on."* A large proportion of discoveries pregnant with blessings to mankind, have had, and we fear still will have, to run the gauntlet of priestly persecution and popular fanaticism. Happily truth can wait for her day of triumph. Professor Simpson himself gives some curious instances of theological opposition to innovation, which are now established practices. Dr. Rowley, condemning vaccination, said, "small-pox is Heaven ordained," but spoke of cow-pox as "a daring and profane violation of our holy religion." "The projects of these vaccinators seem to bid defiance to Heaven itself, even to the will of God." Winnowing machines were opposed by some of the more rigid sects of dissenters on the ground that "winds were raised by God alone, and it was irreligious in man to attempt to raise wind by efforts of his own." One Scotch clergyman at least actually excluded "from the Communion table of the Lord's supper those members of his flock who thus irreverently used the 'devil's wind.'"

Useless, and worse than useless, as we think the practice of appealing to the Hebrew Scriptures for approval of scientific discoveries and their applications, we cannot resist the temptation to close this section of our article by the following very ingenious observations:

"Those who urge, on a kind of religious ground, that an artificial or anæsthetic state of unconsciousness should not be induced merely to save frail humanity from the miseries and tortures of bodily pain, forget that we have the greatest of all examples set before us for following out this very principle of practice. I allude to that most singular description of the preliminaries and details of the first surgical operation ever performed on man, which is contained in Genesis ii. 21: 'And the Lord caused a deep sleep to fall upon Adam; and he slept; and he took one of his ribs, and closed up the flesh instead thereof.' In this remarkable verse the whole process of a surgical operation is briefly detailed. But the passage is principally striking as affording evidence of the Creator himself using means to save poor human nature from the unnecessary endurance of physical pain."†

Objection X.—The fatal power of anæsthetic vapors, as illustrated by the numerous and well-authenticated cases of

† Simpson's Memoirs, vol. 2, p. 621.
* Channing on Etherization in Childbirth, p. 146.

death from their inhalation, is of course the most formidable objection of all against their use. The appalling reality of this objection is confessed alike by the advocates and opponents of anæsthesia, and is felt too deeply by the public at large to need any emphasis from us. We have reason to hope, that by obtaining more accurate knowledge than we now possess of the physiological action of anæsthetic vapors, we shall be able to learn why in one case they have killed, and why in others they have not; and, therefore, how fatal consequences may be avoided. But until we can do this, a dark cloud will hang over the whole subject of anæsthesia, and every thoughtful patient who is constrained to submit to the surgeon's knife, will have to choose between the torture which it inflicts, and a descent into "the valley of the shadow of death," with the *possibility* that he may be unable to return.* We have stated the alternative in the most terrifying shape which it can assume, because considering only the number of deaths which have occurred, regardless of the circumstances attending them, it may be fairly alleged that whenever a person inhales chloroform or any kindred vapor, until total anæsthesia is induced, he at least encounters a risk of death. But, viewing the subject in the light of experience only, let us see what that risk amounts to.

It is, we believe, impossible to obtain accurate statistical information of the average number of surgical operations performed each year in the United Kingdom. As yet no attempt has been made, so far as we know, to supply this great desideratum. At the present time, therefore, we can only offer a conjecture. There are in London fifteen hospitals where surgical operations are being frequently performed. Some of these are small; we will, therefore, confine our attention to the ten largest metropolitan hospitals. St. Bartholomew's is immensely large. At the lesser hospital of University college 4,440, and at Charing Cross hospital 1,600 operations have been performed under chloroform during the last ten years. St. George's, though larger than University college, is probably of medium size, and may, therefore, be fairly taken as representing the *average* number of operations which are performed in each of the other nine. In this hospital 3,000 operations are said to have been performed within the period just mentioned. If we multiply this number by ten, which is the number of

* We do not forget that the anæsthetic power of mesmerism offers another resource; but while chances of death from anæsthetic vapors remain what they now are, surgeons are not likely to consent to use mesmerism; which therefore is virtually excluded from consideration.

the principal hospitals in London, it appears that at least 30,000 operations have been performed in the metropolis during the ten years in which chloroform has been used. We are aware that according to the statistical statements respecting the surgical operations performed in London, which have been published in the "Medical Times and Gazette" during the last four years, and which we have carefully examined, not more than 10,000 operations have been performed in London during the last ten years. But those statements comprise only the "principal operations," and must exclude, as indeed we know they do, and, as is proved by the data obtained from St. George's, University college, and Charing Cross, an immense number of cases in which chloroform is given. Now if, without considering the upper classes, who do not resort to hospitals, we regard the hospitals of London as affording surgical aid to all who require it out of a population of, say 3,000,000; if we suppose that the rest of the population of the United Kingdom and the population of France, Germany, and the U. States demand surgical aid in the same numerical proportion as the people in and around London seem to do—and if we estimate the total population of these countries at 120,000,000, we arrive at the conclusion that during the last ten years the number of surgical operations which have been performed in the United Kingdom, the United States, France and Germany, collectively, is 1,200,000. We have confined ourselves to these countries, because it is from them mainly, though not exclusively, that the reports of deaths from anæsthetic agents have been collected. Among the deaths ascribed to chloroform there are seven, the cause of which is uncertain. Assuming four of these to be due to chloroform, the following is a statement of all the deaths which we have been able to learn of as having occurred either in Europe or America from the inhalation of anæsthetic vapors:

Deaths from chloroform 68; from ether 2; from mixture of chloroform and ether 1; from mixture of chloroform and alcohol 1; from amylene 2—total 74.

The practice of rendering patients insensible, before submitting them to operations, was so rapidly and generally adopted, after the possibility of it became known, that we are justified in assuming that, during the ten years that anæsthetic vapors have been used to annul the pain of surgical operations, all or nearly all have been performed under their influence. If so, and if the induction of anæsthesia has caused 74 deaths, then 1 case in 16,216 has proved fatal.

Of course, considering the slight data from which this conclusion is deduced, it can only be accepted as a reasonable conjecture. In estimating the number of surgical operations, we have excluded all those which are performed in private practice—all dental operations (although several deaths from chloroform have occurred during dental operations); and all the cases, which have been very numerous, of operative midwifery, although two of the deaths included in the above statement have happened to women during childbirth. It seems to us, therefore, that the conjectural number we have stated is below the truth; and that when we affirm that the chance of death from the induction of anæsthesia by chloroform occurs once only in every 16,216 times, we are presenting a more unfavorable view of the actual practice of anæsthesia than would be obtained by means of careful statistical enquiry.

Suppose a formal statement were made to every person about to undergo a surgical operation, that if he chooses to be rendered insensible during the process, there are 16,000 chances in favor of his safety, and that there is one against it, how many would elect to preserve their consciousness and bear the necessary torture, rather than run the amount of risk we have indicated as the condition of becoming wholly oblivious of suffering? Indeed, we incline to think that were the induction of anæsthesia in labor accompanied by a risk fully equal to this, a large number of women whose sufferings are, from various causes, more than ordinarily severe, would resolve to incur that risk. But, in fact, unlike surgical patients, they are not called upon to choose between any such painful alternatives. As we have already shown, the degree of anæsthesia necessary to prevent the sufferings of childbirth is so much less deep than that which is necessary to prevent the agonies of surgical operations, as to exclude the risk of fatal consequences altogether. When ether and chloroform were first employed in the practice of midwifery, they were administered with undue confidence in their safety, and to such an extent as to induce needlessly deep states of anæsthesia. They have been given to tens of thousands of women by medical men who in many instances were but slightly acquainted with the properties of the agents they were using, and were altogether inexperienced in their administration; and yet not one woman has died in childbirth from the effects of either chloroform or ether when administered by professional men.

Two women have lost their lives by inhaling chloroform,

but in neither case was a medical man present. The first case occurred in England, in 1855, and is thus recorded by Dr. Snow:

"The patient had inhaled chloroform in America in a previous labor; but her medical man, on the last occasion, who was her particular friend, forbade that agent, and said if she was determined to have it, he would not attend her. She procured chloroform unknown to him, and a number of scents to put on her handkerchief and hide the odor of it from him. He went to bed in the house, and was not called up till his patient had been dead about an hour. The monthly nurse, who had procured the chloroform for the patient, said that she snored very loudly for an hour after she fell asleep. About five drachms of chloroform were used from the bottle, and the handkerchief from which it was inhaled remained close to the patient's face till she died. The death seemed to have taken place very slowly, and the monthly nurse was extremely stupid to allow the patient to die. It may also be remarked, that the accident would not have taken place except for the medical man's extreme aversion to the use of chloroform"—(p. 328.)

The other fatal case occurred at Wemyss Bay, near Largs, in Ayrshire, on the 20th of September 1858. Her usual medical attendant, Dr. Campbell of Largs, who gave an account of the case to Dr. Lee, says:

"Mrs. B. was a tall, thin person, who always during the married life was in delicate health. . . . She suffered from indigestion, and was unable to take any considerable amount of exercise; nor could she nurse any of her children. In July last, she had a feverish attack, and a decided threatening of premature labor, . . . and from that time her pulse was unnaturally full and frequent."

During her first confinement, in 1850, manual interference being necessary, Dr. Campbell caused her to inhale chloroform.

"Since that period she has been six times pregnant, and she had chloroform at each of her confinements; at least I am told so, for at two of these labors I did not arrive in time to witness delivery. It is not my practice to give chloroform in natural, easy labors; . . . but Mrs.—— having experienced the comfort of exemption from pain, and no unpleasant result from the use of it, insisted on having chloroform, and her husband would give it. . . . On the occasion of her last and fatal labor, I understood I was to be called as usual; but, for some reason not very satisfactorily explained, I was not sent for. . . . On the morning of

the 20th (of September) I had occasion to go to Wemyss Bay to visit a patient, and I landed at the pier at ten minutes past eight A. M. I was met by a servant of Mrs.——, who told me that she was alarmingly ill, and begged me to go to her without delay. I went directly, and you may guess my horror when I found her stretched lifeless on the bed. She had been dead about ten minutes. I spent half an hour in fruitless attempts at reanimation. . . . About twenty minutes to eight A. M., expulsive pains came on, when she called for chloroform; on giving it probably for the fourth time, she threw herself violently back, gave a gasp or two, a slight gurgle was heard in her throat, and respiration and the pulse instantly ceased. . . The quantity of chloroform given in all probably did not exceed two drachms. The bottle from which it was taken could not have held more than an additional half ounce, and it was not full when Mr.—— (the husband of the patient) began to administer it. I applied for a post-mortem examination, but it was declined. The chloroform was given on a common muslin handkerchief."*

We have given the foregoing circumstantial details of these two deplorable cases, in order that our readers may have the amplest possible means of assigning to them their due weight before they decide upon their verdict. In the first case, the patient was allowed to sleep herself to death, although by her snoring she gave a signal of danger during a whole hour—her medical man being fast asleep in another room meanwhile. In the second case, all the circumstances seemed to have conspired to cause death; the patient's health had been bad for years; during the two months previous to her confinement, "her pulse was always unnaturally full and frequent;" her husband, having given chloroform to her in former confinements, felt, in all probability, that over-confidence which arises from empirical success, and neither fearing nor knowing the danger which attends the unskillful administration of chloroform, he was not likely to provide against it; "the chloroform was given on a common muslin handkerchief"—a method the most inconvenient of all for regulating the amount of the vapor inhaled, and for securing its due admixture with air, and therefore the most dangerous of all in the hands of a non-professional man; and, lastly, no medical man was present, either to superintend the administration, or to adopt prompt measures to avert danger if it should appear.

Objectors to anæsthesia during labor may and do remark,

* Medical Times and Gazette, Nov. 6, 1858.

that although these are the only two authenticated cases of death from chloroform in childbirth, there are, in all probability, many others which are never published, or which are carefully hidden from the public eye. We have made diligent enquiry concerning alleged cases of this kind, and are compelled to discredit altogether the assertion of their occurrence. Indeed, seemingly by a beneficent ordination of Providence, certain gifted men, among whom, as the most distinguished, we may name Professor Meigs, Dr. Ramsbotham and Dr. Robert Lee, are kept ever on the watch for the discovery of such cases; and seeing that the vindication of their own views is made dependent on the success with which they explore every part of Europe and America, and collect every fact which can be made subservient to the condemnation of obstetric anæsthesia, we may rest assured that their eagle gaze, aided as it is by coroners and other like functionaries, will not fail to detect each fatal instance of death from chloroform wherever it may occur. We are therefore justified, we believe, in affirming that the two deaths during childbirth which are known to have been caused by chloroform, are the only two which have occurred.

But while chloroform is responsible for only two deaths, it has, in all probability, saved several lives. "Puerperal convulsions," says Professor Simpson, "constitute one of the most common and fatal complications of difficult labor." According to statistical tables compiled from the observations of a large number of practitioners, by Dr. Churchill, it appears that 273 cases of convulsions occurred in 190,313 cases of labor, or 1 in about 693¾, and that of those attacked, 2 out of every 9 die. This rate of mortality is much less than that which many have experienced. "Jacob states that in his time scarcely any survived. Dr. Parr, in his Medical Dictionary, that six or seven out of ten die. Dr. Hunter, that the greater proportion were lost."* Out of 105 cases which have occurred to Ramsbotham, 21 were fatal. Now, Dr. Simpson, as already stated, says, "Chloroform seems generally capable of reducing and keeping in abeyance" this frightful malady. We have also shown that Dr. Channing, Dr. Churchill, and several other practitioners, gave like evidence; and we may add the testimony of Dr. Murphy, that chloroform not only arrests convulsions, but that, by annulling the paroxysms of anguish, it prevents their occurrence.† How many lives chloroform may thus have saved, it is impossible to tell; but that its beneficent

* Churchill's Theory and Practice of Midwifery, p. 480, 481.
† Chloroform in Childbirth, p. 35.

influence has been exerted in this way, there can be no doubt.

There seems also to be strong evidence that it often averts death by preventing the constitutional shock which intense pain is apt to inflict, and which is not unfrequently fatal. "Pain," says Mr. Travers, "when amounting to a certain degree of intensity and duration, is of itself destructive." This opinion, frequently emphasized by him, is insisted on by many other professional authorities.*

From data supplied by Dr. Collins, in his Report of the Dublin Lying-in Hospital, Professor Simpson has calculated that of the women whose sufferings were terminated within two hours, 1 in 320 died; of those whose labors lasted from two to six hours, 1 in 145 died; of those whose labors lasted from seven to twelve hours, 1 in 80 died; of those whose labors lasted from twelve to thirty-six hours, 1 in 23 died; and of those whose sufferings were prolonged beyond thirty-six hours, 1 in every 6 died.

A new report of the same hospital has just been published. It extends over seven years, ending with 1857, and comprises an experience of 13,748 deliveries. According to this report, the rates of mortality are as follows:

Of the women delivered within six hours from the beginning of labor, 1 in 178 died; of those whose labors lasted from seven to twelve hours, 1 in 144 died; of those whose labors lasted from thirteen to twenty-four hours, 1 in 124 died; while of all those whose labors were prolonged beyond twenty-four hours, but with which there was no interference, 2 out of 41 died. The evidence condensed by a writer in the Medical Times and Gazette, from the extensive tables contained in the second of these two reports, differs somewhat in form, and still more so in substance, from that of the first; but that the increase in the rate of mortality is in proportion to the duration of suffering, is established with equal conclusiveness by both.† We freely admit that the existence of a relation between the rate of mortality and the length of suffering is no demonstration that that relation is a casual one; and we know that several causes may contribute to establish it. Of these, however, we believe that continuous pain is the chief. If this be so, chloroform

* See Travers on Constitutional Irritation, and other works quoted in Simpson's Memoirs, vol. 2, p. 535.

† During the seven years to which the last report refers, chloroform was not usually given in ordinary labors; but it was employed in nearly all cases to annul the pain of obstetric operations, or of manual interference, and without a single accident attributable to its use. It would be interesting to learn whether *its administration* in difficult cases has chiefly conduced to the lessened mortality *observable* throughout the last period.

doubtless often saves life by merely annihilating pain. But the most striking facts illustrative of the fatal effects of pain, are obtained by observing the per centage of deaths which follow surgical operations without and with the use of chloroform. Before chloroform was employed, the mortality from amputations of the thigh, leg and arm in British hospitals, averaged 29 per cent.; whereas out of 302 cases collected by Professor Simpson, in which anæsthesia was induced, only 71 died, or 23 per cent.

Again: in cases of amputation of the thigh (one of the most fatal operations commonly performed), the average mortality in the same hospitals was 38 per cent.; but out of 145 cases collected by Professor Simpson, in which anæsthesia was induced, only 37 died, or 25 per cent. Dr. James Arnott, who advocates the induction of anæsthesia by freezing the part to be operated on, has striven to demonstrate the injurious effects of chloroform, by the publication of a statistical table seemingly invalidating the evidence presented by Professor Simpson. He has also endeavored to prove that chloroform so depresses the vital powers of patients as to prevent many from recovering, who would otherwise do so, from the effects of surgical operations. We have read the whole discussion which the statement of his views has elicited, and are satisfied that experience does not substantiate them. Dr. Fenwick, in a series of papers on the results of operations performed in the Newcastle infirmary, proves conclusively that the indiscriminate way in which Dr. Arnott's tables are compiled, renders them valueless as illustrative of the effects of chloroform on the mortality of patients who have submitted to surgical operations under its influence. From the tables of the Newcastle infirmary, extending over the period from 1823 to 1856, Dr. Fenwick shows that if the amputations on account of accidents are separated from those on account of disease, and if like be compared with like, the results are as follows:

Before the introduction of chloroform there were 144 pathological amputations, with a mortality of 19 per cent., while during its use there have been 61 similar amputations with a mortality of 13 per cent.; and while of 81 traumatic operations without chloroform, 32 per cent. were fatal, only 31 per cent. were fatal when it was employed. In certain operations, forming a small proportion of the whole, the results were less favorable; but summing up all the facts, Dr. Fenwick demonstrates the truth of the conclusion, that the practice of anæsthesia lessens considerably the immediate mortality from surgical operations, and as a general rule,

liable to exceptions, instead of retarding, hastens the convalescence of the patient. The experience of the Salisbury infirmary is to the same effect:

"Whereas we lost," says Mr. Coates, "in the six years previous to the use of chloroform, 22.58 per cent., we had a mortality of 9.259 per cent. during the six years following its introduction. The still more favorable results since December 1855, when the tables from which the above figures are drawn were made up, reduces the mortality of the whole period after the introduction of chloroform to 6.41 per cent. as against 22.58 per cent. before its use."

The number of operations during anæsthesia here given is undoubtedly small as a basis for a large generalization; but we are assured, by abundant surgical testimony, that though a more extensive statistical enquiry might modify, it would also strengthen the conclusion to which the above figures lead us. Moreover, chloroform often saves life in other ways. In the valuable pamphlet just referred to, Mr. Coates says, "I twice had the misery of watching persons dying from strangulated hernia, because they dreaded the pain of the operation;" and he gives three instances from his own practice, in which the formidable operation necessary to save life in these cases was rendered needless by the relaxing power of chloroform. The same testimony to its wonderful efficacy in averting operations in similar cases, repeatedly appears in the medical journals.

Reviewing the evidence now presented in proof that the mortality of women in childbirth is in proportion to the duration of their sufferings; that by annihilating pain, death may often be averted; that chloroform has the power of subduing puerperal convulsions, and sometimes of preventing their occurrence; and that it saves life by rendering certain operations needless—we are, we believe, fully justified in affirming that even now the number of patients who are lost is less than that of those who are saved by the practice of anæsthesia.*

* We say, *even now*, because we believe the time will come when the mode of action of anæsthetic agents will be perfectly understood, and when the knowledge obtained concerning them will so direct their administration as to avert altogether those fatal effects which too often hitherto have resulted from their use. We shall endeavor, before long, to justify this belief by an article on the Physiology of Anæsthesia, in which we hope to point out how anæsthetic vapors act, how they kill, and how they may be safely used.

II. *The Medical Practitioners of Ancient Rome.* By E. R. Peaslee, A. M., M. D., of New York. (American Medical Monthly.)

The adage "*nusquam medicina non est*," implies that there never has been a nation or tribe in which the practice of medicine has not, in some form, been used. But on the other hand, much stress has been put upon the assertion of Pliny the elder, who wrote A. D. 78, that during the first six hundred years after its foundation, or up to B. C. 153, Rome had no physicians.

Pliny's assertions, however, if correct, does not disprove the adage so far even as Rome was concerned; for there has always and every where been much medical practice independent of physicians; and we have no reason to doubt that the sick were treated and taken care of at Rome from its very foundation by those best qualified for this office. In regard, however, to the advent of physicians, properly so called, to Rome, Pliny must have been mistaken.

Two circumstances are calculated to invalidate Pliny's statements on this subject:

1. Pliny was not a medical man, but a laborious compiler of various departments of knowledge; his "Natural History," consisting of thirty-seven books, treating of cosmography, astronomy, geography, physics, agriculture, commerce, the useful and fine arts, the moral constitution of man, the history of nations, natural history proper, and medicine. He is said to have condensed his materials from more than two thousand authors, and from the reading of his whole life.* But he, like many others of his countrymen, cherished a strong prejudice against the medical profession, and hence his testimony must be accepted with some degree of allowance.

2. The authority of Cato the censor, who wrote about B. C. 170, or about two hundred and fifty years before Pliny, is mainly relied upon by the latter, in his statements respecting the medical profession in Rome. Cato, however, wrote not long after the time when physicians first came to Rome from Greece, or about the year of the city 583; and he manifested a violent hatred against the whole medical profession. Medicine had been first practiced at Rome under the patriarchal form; the oldest and best instructed of the relatives treating the diseases of his family as he under-

* Dr. J. Watson: The Practice of Medicine in Ancient Times, p. 139.

stood them. Old Cato himself had been much interested in this domestic medicine, and had even written a book on the subject, in which he recommended cabbage as a sovereign remedy in many cases. He also venerated the number three, after the manner of the Pythagoreans; and transmitted to posterity an incantation for curing a dislocation or a fracture, which is too curious to be lost. "For curing a luxation of the hip," says he, "take a divining rod, four or five feet long, split it in the middle, and let two men hold it at the hip and begin to sing: 'In alio, s. f., motas væta daries dardaries astataries dissunapiter,' until the injured parts are united The luxation being reduced, or the fracture set and properly adjusted in splints, repeat the incantation every day as at first, or the following: 'Huat hanat huat ista pista sista dominabo damnaustra;' or, after this manner: Huat haut haut ista sis tar sis ardannabon dunnaustra.'"—WATSON: from Cato de Re Rustica, cap. clx.

It is very natural that a person in this state of mind should conceive a violent antipathy for any attempt at scientific practice, and especially if made by foreigners, professing a superiority to the method then in vogue. There are narrow-minded and bigoted persons at the present day, also, among the educated, as they are self-styled, who denounce every thing that is really scientific in medical practice, and laud some one of the various phases of quackery instead; and who would speak of the present race of physicians very much in the style in which Cato denounced the doctors of his time, in a letter to his son Marcus, and from which Pliny makes a quotation: "I will tell you," said he, "when I have an opportunity, what I think of these Greeks. It is good to study, to some extent, their letters and sciences, but it is not necessary to learn them fully. Be assured, as if a prophet had told you, that, as soon as this nation shall have communicated to us its literature, it will spoil and corrupt every thing; and this will be so much more easily effected, if it sends us *also its physicians. They have sworn among themselves to kill all barbarians by their medicine*, and yet they require pay from those whom they treat, in order to gain their confidence, and thus ruin them more easily. They are insolent enough to call us barbarians, and even treat us more disdainfully by calling us opiques. In short, remember that I have forbidden you to employ physicians."*

In the 5th chapter of the 29th book, Pliny expresses his own opinion of medicine, as follows: Mutantur ars quotidie,

* Cato, De Re Rustica. Renouard's Hist. of Med., p. 249.

toties interpolis et ingeniorum Greciæ flatu impellimur: palamque est, ut quisque inter istos loquendi polleat, imperatorem illico vitæ nostræ necisque fieri: ceu vero non millia gentium sine medicis degant. "The art is changing daily, assuming a new dress as often as we are carried away by some new-fangled notion from Greece; and when one of these fellows gains an ascendancy by his talking, he becomes on the spot an arbiter of life and death to us; as if thousands of nations do not get along without doctors." It must be admitted, that this last sentence contains a somewhat random assertion; and it is in the same passage that he says that the art was not practiced among the Romans until the six hundredth year from the building of the city, or B. C. 153.

But though the old censor's mind was too full of prejudice and suspicion to admit of his being a reliable witness as to the merits of the physicians of Rome, he leaves us no doubt of the fact that physicians were engaged in practice there before the time specified by Pliny. In fact, Pliny himself says (chap. 6 of book xxix), that a surgeon came to Rome in the five hundred and thirty-fifth year after its foundation, and that he received a most cordial welcome at first; but shortly, from his cruelty in cutting and burning, they called him a butcher, and his art a nuisance.

It is, however, very probable that both Cato and Pliny were not very much in the wrong in attributing to the foreign doctors in Rome a low degree of actual professional merit. It very seldom happens that the best physicians leave their native country, since such are always sure to be appreciated and required at home. And at this time, and long afterwards, as Galen informs us, those who flocked to Rome from Greece and elsewhere, were mostly fifth-rate doctors, or miserable mountebanks. It is said that even Asclepiades himself, the friend of Cicero, and who settled in Rome B. C. 63, descended to some of the low methods of quackery; and long after him, Thessalus, when he appeared in public, was always accompanied by a troop of bakers' boys, butchers, weavers, carders, and others of the lowest classes, whom he called his pupils, and whose vulgar language he used. He was, however, patronized by the Emperor Nero, and acquired immense wealth.

Galen explains the fact, just stated, in the following passage, and it is now as applicable to New York as it was 1,700 years ago to Rome: "In a vast and populous city, like the capital of the Roman empire, it is easy for a stranger, and even for a citizen, to conceal his name, his birth,

his fortune, and his conduct. A man is only judged by the luxury he displays and the arrogance he exhibits. If accidentally he is discovered, it will suffice him to change the location; while in a small town, all the inhabitants know each other; a man's relatives and education are so well understood that fraud is impossible."

And among the various forms of charlatanry in those days, the water doctors also flourished. The system of Thessalus was overthrown by Crinas of Marseilles; and after the latter, says Pliny (chapter 5th of book xxix), there came along one who entirely outshone all preceding hydropaths. "Condemning all former physicians, and the baths then in use, he persuaded his patients to use cold water during the rigors of winter. He plunged sick people in ponds. We have seen aged consular gentlemen freezing themselves from sheer ostentation. We have also Annæus Seneca's* personal statement in proof of this. Nor is there any doubt that these fellows, seeking fame by any form of novelty, would in a moment sacrifice our lives for lucre."

There is no reasonable doubt, therefore, that Rome had her physicians at least more than half a century previously to the time specified by Pliny. But in order to settle this question independently of history, I some time ago consulted the Latin poets, expecting that, since dramatic poetry finds most of its inspiration in the pleasures and pains of daily life, I should find in the Latin comedies some allusion to the early physicians of Rome. And not to adduce other authors and other allusions, I find that in two of Plautus' comedies—Amphytrion and Upidicus—the doctors' shops are spoken of in connection with the barbers' shops; "medicinis" and "tonstrinis" being the terms used. In another of his pieces, entitled "Aulularia," I find a line demonstrating the fact that about the year of Rome 560, there were persons called doctors, who prescribed for a fee. It is this:

"Numo sum conductus, plus jam medico mercede est."

A learned commentator (M. J. Naudet) shows that "numus" means a "didrachma" (two drachmas) or about 32 cents. "*Numo sum conductus*," *I am responsible for* 32 *cents;* and the whole line may be rendered: "*They have lent me* 32 *cents—not enough to pay the doctor.*" If we suppose that three drachmas only, instead of two, or 48 instead of 32 cents, was the doctor's fee, and remember the comparative value of money, then and now, we need not wonder after all, that some of our confréres of those times got rich, and even pos-

*Letters to Lucilius, 53 and 83.

sessed slaves; as is said in a comedy, entitled "The Captives," to have been the case with a Doctor Menarcus.* I pretermit similar illustrations from other poets, but shall, I trust, be pardoned for adducing from Plautus a pun at the expense of our fraternity. In the little scene of "Rudens," two slaves exchange the following pleasantries:

"Ut vales? "How are you?"

"Quid tu, num medicus quaeso es?" "What is that to you? are you a doctor, pray?"

"Imo, edepol, una littera plus sum, quam medicus." "Yes, by Pollux, and one letter more than a doctor."

"Tum tu est mendicus." "Then you are mendicus (a beggar), and not medicus."

"Tetigisti acu." "You have hit it."

The facts, then, in respect to the medical profession in ancient Rome, are simply these: For a long time after its foundation, medicine was practiced at Rome under the patriarchal form, as before explained. In the time of Caius Marius, however, the city had become well supplied with physicians. But Asclepiades was mainly instrumental (B. C. 63) in introducing scientific medicine, as then understood by the Greeks, and as laid down especially by Hippocrates nearly 300 years before. Meanwhile, of the native Romans, only slaves, male and female, were physicians at Rome; and this continued to be the case till Cæsar decreed to all who practiced medicine the rights of citizenship. It is, therefore, not strange that the low social rank of the early Roman physicians prevented them from gaining a conspicuous place in history. In Athens, on the other hand, it was forbidden by law that a slave or a woman should practice medicine; and thus a dignity was imparted which secured its transmission to succeeding times.

Galen came to Rome from Alexandria, then the best school of medicine in the world, in A. D. 159, being 28 years of age. But he met with so much opposition from professional brethren, whom he in turn denounced as ignorant quacks, that he returned at the end of five years to Pergamus, in Asia Minor, his native place. He was, however, soon recalled, to attend the Emperors Marcus Aurelius and Lucius Verus; and having cured the two sons of the former of fevers, which the other physicians had predicted would prove fatal, he attained a distinction which enabled him to defy the power, and finally to ruin the credit of his former opponents. His writings were regarded as the supreme authority in medi-

*Menière, Etudes des Poètes Latins.

cine, and especially in anatomy, for 1,400 years after, or till Vesalius published his work on the structure of the human body, in 1543; and in the practice of medicine his authority was not materially shaken till a century later, and when the importance of Harvey's discovery of the circulation of the blood began to be appreciated.

It requires a great mind to appreciate the true dignity and value of our art. The rights accorded to practitioners of medicine by Cæsar, were therefore confirmed by Augustus, Vespasian, and several succeeding emperors. Augustus loaded his freedman, Antonius Musa, with wealth, for having cured him of a dangerous illness; raised him, by consent of the senate, to equestrian rank; erected a bronze statue to his honor, near that of Æsculapius; and at his instigation conferred important privileges on the whole body of the profession residing in the city. Watson, p. 98. Subsequent emperors did not, however, adopt the liberal policy of their predecessors. Nero patronized the audacious and vulgar Thessalus, and we find that within three centuries after the time of Galen, the practice of medicine had again fallen mostly into the hands of slaves; and that the Code of Justinian, promulgated about A. D. 500, fixed the legal price of physicians, male and female, at 60 solidi, or $257 12.

Thus Rome constituted no exception to the adage with which this article commenced, and Pliny was simply mistaken in his date—being led into the mistake by his prejudice against the profession, and the desire to show that the class of educated physicians is of very little importance to the commonwealth.

CHRONICLE OF MEDICAL SCIENCE.

PHYSIOLOGY.

1. *Glucogenic Function of the Placenta.* M. BERNARD'S Summary.

First.—There exists in the placenta of the mammiferæ* a function which until now has been unknown, and which seems to supply the glucogenic function of the liver during the first period of embryonic life. This function is located in an anatomical element, glandular or epithelial, of the placenta, which in certain animals is found mingled with the vascular portion of that organ, and which in the ruminantia presents itself separately, forming upon the amnios, plaques in appearance epithelial, which without doubt every body has been able to see, but of the use of which, until now, they have been ignorant.

Secondly.—This temporary hepatic organ of the placenta, in permitting the direct study, in an isolated anatomical element, of the production of glucogenic matter, confirms and proves by a new example what I have before declared, that is, that the formation of the starchy glucogenic matter takes place both in the animal and vegetable kingdoms. The observations in this paper furnish us with still more striking analogies; since we see the starchy glucogenic matter accumulate around the embryo animal, just as in plants we see it accumulate in grains around the embryo plant.

Thirdly.—The glucogenic function commences from the commencement of fœtal life, and before the organ which is the seat of that function in the adult is developed. But it is located in a temporary organ belonging to the appendices of the fœtus.

Fourthly.—All that has been said in this paper relates only to the glucogenic function of the liver. But now the

* In birds (the hen) I have proved the existence of the glucogenic cells which develop themselves in the walls of the gizzard before the development of these cells in the liver; but not having been able to follow completely their evolutions, I will treat that subject in another communication, confining myself at this time to the mammiferæ.

question would be, whether the biliary function which the liver possesses in the adult is equally accomplished by the hepatic organ of the placenta, as we have described. The question should be stated in these terms: to know if the glandular cells are charged with two functions, which for the time are connected, and answer one for the other; or if, on the contrary, the liver should not be considered rather as a complex organ, in which are found mingled distinct anatomical elements, the one destined to the formation of starch, and the other for the formation of bile. This question, which up to the present time anatomists have not been able to solve, in spite of the numerous works of which the liver has been the subject, seems to me to be susceptible of enlightenment, and even of decision by physiological researches, made on the one hand upon the embryonic development of the function, and on the other upon the inferior animals. I have undertaken experiments on this subject, of which I will render an account to the academy as soon as they are completed.—*Am. Med. Monthly.*

2. *Physiology of Butter.*

It is a wonderful fact, that butter contains not only the fuel, but the material necessary for its proper combustion. Is the supply of fuel small, the consuming power is proportionally reduced. It is thus a self-regulating article. With an increase of the consuming power, coincides a proportional increase of the material to be consumed. From these facts we may readily understand how a child may be fat, and yet be deficient in strength and vital heat. Starch-fed children are often fat, and yet are languid and weak. The starch has been digested, but, as it contained no azote, it could not nourish the tissues of the body; having no phosphorus, it could not supply the wants of the nervous system. It has thus failed to produce heat or general energy. Not so with butter. This lecithine excites the nervous system to efficient action, and all the functions feel its influence. And thus the butter-fed child is often less fat than one fed on starch. But in all that constitutes bodily well-being he is far in advance. To promote calorification, there is no equal to butter among the articles of food usually given to children. It is probable that no substitute for it will ever be found.

MEDICAL PATHOLOGY AND THERAPEUTICS.

1. *Method of Making the Mercurial Cigarettes.*

Dr. Nevins gives the following directions for preparing these cigarettes: A little practice, he says, is requisite for skill in making them; but the following directions will obviate the difficulties generally experienced on the first attempt:

Take of nitrate of mercury 15 grains; acid nitric. fort. 15 grains; aquæ destillatæ, 6 drms. vel. q. s. Mix the acid and water, and dissolve the nitrate of mercury by the aid of a gentle heat, which may be obtained on the top of an ordinary oven. Then soak in the solution a piece of thick white blotting paper, six inches by eight, and dry it. Before it is quite dry, cut it into eight slips, and roll each of these round a thin pencil, so as to make a small paper tube. To prevent this from unrolling, the free edge should be gummed. The cigarette is now complete, and when dry, will burn like touch-paper when smoked. The interior may be stuffed with tobacco if desired, or the paper itself may be rolled into a cigar, along with tobacco in the first instance; but it ought always to be rolled before being quite dry, as it is liable to become brittle when perfectly dry, and to crack in the operation of folding. It sometimes happens, that the nitrate of mercury does not become perfectly dissolved, even by the aid of the gentle heat, in which case the mixture should be stirred up previous to the paper being immersed in it, and a slight degree of agitation of the liquid will diffuse the undissolved nitrate uniformly over the paper.

It is evident that other agents than nitrate of mercury might be employed in this way. Nitrate of potash, in the form of common touch-paper, would yield nitrous acid, which might be of service in a languid ulceration about the throat. Creasote and various pyrogenic compounds may be applied directly to the bronchial membrane, by smoking brown paper of a tarry composition; and benzoic acid might be introduced in a similar manner, by soaking the white paper in a very weak solution of saltpetre, to render it sufficiently combustible, and then adding a solution of benzoin or of benzoic acid, before rolling the slips into cigars; but the principle being once understood, the particular drugs to be adopted, and the cases in which they are to be applied, will suggest themselves to the mind of the medical man as

the necessary occasions arise.—*Liverpool Medical Chirurg. Journal.*

In a paper read before the Liverpool society, Dr. Nevins reports the successful employment of his *mercurial cigarettes* in various forms of diseases of the air passages. The following is a summary of his results:

In *aphonia*, dependent on chronic thickening of the vocal cords, the use of the cigarettes for one month, the patient being directed to swallow the smoke, caused a perfect cure.

Fœtid discharge from the frontal sinuses.—The patient was directed to inhale the smoke, and holding the nose, the fumes were received into the sinuses with very gratifying success.

Nasal polypus.—The fumes of the cigar drawn through the nostrils greatly ameliorated this troublesome and oft recurring affection.

Eustachian tubes.—In chronic inflammation of the tubes, Dr. Nevins directed the mercurial vapor to be held as long as possible, and to force the smoke into the ears. Some practice enabled the patient to achieve this point with good results.

Spasmodic asthma, depending on thickening of the bronchial tubes, was much relieved by using for a long time the cigarette as above described.—*Ed.*

2. *Treatment of Vertigo from Gastric Derangement.* From the French of Trousseau and Bretonneau.

In the morning the patient should take a cup of a solution of *quassia amara*, made by macerating two grammes of the chips for 12 hours in a cup of cold water. The following should also be taken:

℞ Sodæ. bicarb., cretæ. ppt., magnesiæ, aa, grs. xv. Mix and divide into three powders, which should be taken two hours after each meal, in a half glass of sugar water, the third being taken at the time of going to bed. As long continued use of magnesia may produce looseness of bowels, the use of the alkaline powders should be suspended from time to time, so that they should be given for six consecutive days, and then resume their use for an equal length of time, after a cessation of eight or ten days. In the interval the patient should employ natural mineral waters, such as those of Vichy, Pouges, Vals and Ems, which are principally active on account of their alkaline constituents; or such as those of Bussang, Schwalbach and Sultzbach, which

owe part of their action to these substances, and most of it to the ferruginous principles they contain.

To excite the appetite, and to stimulate the contractility of the muscular fibre of the digestive apparatus, it is well to have recourse, from time to time, to the properties of strychnine. This may be given in solution, or in the form of pills of the extract of nux vomica, beginning with a dose of 0.05 centigrammes, which may afterwards be slightly increased.

The hydropathic treatment, at home, with cold lotions, or wet cloth, is in a large number of cases of undoubted utility. Above all things is it necessary to insist upon a substantial tonic regimen, moderate exercise, and every thing that can favor nutrition. The use of pepsin, in the form of *pastilles*, seems also indicated in such cases. L. H. S.

Am. Med. Monthly.

3. *Application of Glycerine in Variola.* From the German, by T. A. Demme, M. D.

The terrible disfigurement that variola often inflicts upon its victims, is one cause of the dread and horror that man instinctively feels at the approach of this loathsome blight. Notwithstanding the earnest endeavors of the physician to discover some therapeutic application that may protect his patient against the pitting and seaming which this disease so often leaves, we are compelled to admit, that comparatively little has been done towards accomplishing this object—mercurial plaster and ointment and penciling with astringent solutions failing to insure against deformity.

Dr. Posner, editor of the Medic. Central Zeit. in the January number 1859 of his journal, recommends the application of glycerine in variola, affirming that it protects and secures the patient against the variola deformity.

He was led to the use of glycerine, in consequence of the entreaties of his patients for some application that would relieve the distressing pain in the pustules; for this purpose he directed the anointing of the painful parts, every two hours, with pure glycerine; his anticipations were answered—the pain and tension being overcome.

It chanced that the first two patients, upon whom the remedy was tested, were completely covered with pustules, which, upon the face, were confluent. Great deformity was expected—but when the scabs fell off, contrary to every anticipation, the scars that remained were small and on a level

with the skin—they were, however, of such a dark color that the patients looked like mulattoes.

Out of instinct, not in obedience to direction, the convalescents continued the application of the glycerine, and after six weeks, the discoloration had disappeared, and the scars were scarcely visible.

Since then a number of patients have been thus protected.

Great care must be taken that the glycerine is perfectly pure.—*Med. & Sur. Reporter.*

4. *Inhalation of Chloroform in Intermittents.* By S. Whitehorn, M. D. of Manhattan, K. T.

I am induced, by reading an article in the January number of the American Journal concerning the internal use of chloroform in intermittents, to record my brief experience in the same direction.

I have administered chloroform on several occasions to patients shaking violently with an ague chill. In every instance it has stopped the rigors after several inhalations. The feeling of oppression and all pains are simultaneously relieved. Should symptoms recur, I repeat the dose. I hope some of your subscribers, with a more extensive field than mine, will repeat the experiment, and report.—*Am. Jour. Med. Science.*

OBSTETRICS, &c.

1. *A Case of Regular Menstruation during Pregnancy.* By Frederic D. Lente, M. D.

Mrs. M., aged 20, emigrated from Ireland in 1855. Was out of health, and had suppression of the menses for several months after her arrival here. Was under my treatment, and finally became "regular," and her health thoroughly restored. Her menstrual function continued to be well performed, and during the summer of 1856 she was married to a private soldier stationed at West Point. She continued "regular" after her marriage, and retained her place as "chambermaid" in an officer's family. In October 1857 she missed her turns for the first time since her marriage, and

on December 7th following, had a full grown but delicate child, in the standing posture, while in one of her employer's rooms, where she had been performing her ordinary work. She had enlarged but very moderately, and supposed she was only a couple of months pregnant. Her lochial discharge continued abundant for a month, then ceased; "saw nothing" for another month, then had a menstrual flow, which continued two weeks. After a month's interval, was "regular" again, and has not had her courses since, the child being now over a year old, and perfectly well. She assures me, as does her aunt also, that her "turns" came on as regular at the end of every four weeks as they did before marriage, and continued each time the usual number of days.

Occurrences of this kind, though recorded now and then, are sufficiently rare to render them worthy of notice.

2. *Dr. Warren on Occlusion of the Uterus—Rupture of the Left Fallopian Tube.* From the Records of the Boston Society for Medical Improvement. (Boston Medical and Surgical Journal.)

The patient had a very severe confinement about four years ago, and has never menstruated since. On examination, a large prominent tumor was found in the abdomen, and not the slightest trace of the os uteri in the vagina. Soon after the vaginal examination was over, a bloody or tarry discharge commenced to flow from the genitals, being accompanied by forcing uterine pains, and with a great diminution of the abdominal swelling, which, however, was confined only to the right lobe of the abdominal tumor, while the left portion of the swelling remained unchanged. The following day, suddenly she was seized with a violent pain in the abdomen, and she died in about two days.

The post-mortem examination showed that the right lobe of the tumor had been formed by the uterus, which had emptied itself through the vagina. The left lobe consisted of the left fallopian tube, enormously distended into a very delicate sac by the retained menstrual fluid. There was no communication between the fallopian tube and the uterus, and the tube had ruptured and discharged its contents into the abdominal cavity, causing death.

EDITORIAL AND MISCELLANEOUS.

State Medical Boards.

THE recent session of the Medical society of Virginia in Richmond, a report of whose proceedings is found in this number of the Journal, was marked with great harmony and unanimity of action. The most important business transacted during the meeting was undoubtedly the perfecting of a bill to be laid before the next general assembly, asking for the appointment of a board of medical examiners to issue licenses to those persons desirous of practicing physic in the commonwealth, who shall give satisfactory evidences of proficiency and fitness for this responsible occupation.

In all respects, we regard the proposed bill as being the most complete and well guarded proposition ever yet brought forward in the state. The reader will especially notice, that the society unanimously insists upon the *diploma qualification* as being in all cases a necessary requirement of the candidate. This insures a previous course of study, which, however deficient in some respects, is beyond doubt the *best* that can be obtained, whilst on the other hand, the examination by the state board may act as a check upon any improper leniency on the part of the colleges in granting degrees to unqualified persons—and thus both the profession and the public will receive an additional protection against ignorance and folly.

By distributing the appointing power equally between the state executive, the state society and the state colleges, all interests will be adequately represented; and under such an arrangement we may reasonably anticipate a competent and impartial tribunal.

An opportunity is now given to the profession of Virginia

to test fairly the *possibility* of obtaining any legislative action calculated to protect, in a direct way, the public from the injurious influences of incompetency and charlatanry. To carry this bill successfully through the next legislature, will require the united action of every physician in the state who desires to witness the consummation of the oft repeated and much desired project.

It is our duty, as medical journalists, to warn our brethren against the dangerous consequences which *may* result to the profession, if a course of legislation should be pursued by our general assembly which may not unreasonably be feared by the friends of the bill as proposed by the society. That such a result may be seriously apprehended, we call their attention to an act for the establishment of a board of medical examiners for North Carolina, recently passed by the legislature of that state—a bill so modified and emasculated as to give no protection to the profession and the public, but which offers additional facilities to persons without proper qualifications, to enter upon the practice of medicine.

Seven members of the Medical society of North Carolina are to be chosen by the *legislature*, who shall license *all applicants* who are 21 years old and of good moral character, who can pass an examination before them on anatomy, physiology, surgery, pathology, medical hygiene, chemistry, pharmacy, materia medica, therapeutics, and the practice of medicine. There is no requirement of the applicant that he should hold a degree, or even have attended a course of lectures in any college. He is not required to have dissected a dead body, or attended a clinical lecture, or seen a surgical operation—but every one desirous to practice physic in the state, can do so, if he answers the questions propounded by the board appointed by politicians, and can get *ten dollars* to pay for his license!

By this bill, then, the only evidence of proficiency which now exists amongst us—that for which the profession has long struggled—we mean the *diploma*—is swept away; and in the place of the examinations of Mott, Parker, Wood,

Bache, Jackson and Dickson, we have substituted an examining board, who will find it hard to stand the torrent of self-taught doctors pouring in upon them.

Thus much the profession loses. What does it gain?

No person shall practice medicine or surgery in the state, says the bill, unless licensed by the board of examiners; but, "*provided that no person who shall practice in violation of this act, shall be deemed guilty of a misdemeanor.*" Section 2d.

A man, then, who refuses to pass this the *only* examination required, is not guilty of a misdemeanor; *but* "he shall not be entitled to sue for, or recover before any magistrate or court in the state, any medical bill for services rendered in the practice of medicine or surgery, or any of the branches thereof."

Now, what is this penalty worth? How many medical accounts are ever carried for collection into the North Carolina courts by our brethren of that state? It is the rarest sight we know of, that of a suit instituted by a physician to collect his bill. He only appeals to the law under extreme circumstances, and generally finds it to his interest to settle with his employer on the best terms possible.

The result, then, of such legislation is to deprive the North Carolina profession of the only protection they now have against the entrance into their ranks of incompetent persons, and substituting in the place of the diploma the examination of a board, which, from the nature of things, cannot be *more competent* than the faculties of the colleges; whilst the only protection given them is the right to do what not one in fifty ever does—*sue for his money.*

Let us take care, then, in Virginia that we do not lose more than we gain by unwise and hasty legislation, and let the profession unite with the society in its unanimous determination to *refuse* the bill to appoint a state board of examiners, unless the diploma is insisted on as a requirement from the applicant, and unless the appointing power be placed under the control of the profession.

Medical Society of Virginia.

TUESDAY, April 26, 1859.

THE Medical Society of Virginia met this day in the Chemical hall of the Medical college—Dr. L. P. Joynes, the president, in the chair.

The following fellows were present during the session:

Drs. Coates, Charles E. Anderson, M. Howard, Haxall, Peticolas, Wm. H. Taylor, W. B. Robertson, C. B. Gibson, J. Dove, sen'r, R. S. Coleman, E. Barbour, Wooldridge, Hill, Tucker, C. M. Brock, Vest, Edmund Mason, B. C. Harrison, St. George Peachy, S. L. Ingram, F. D. Cunningham, J. Dorsey Cullen, Drew, James Bolton, D. W. Thomas, J. B. McCaw, O. A. Crenshaw, Wm. Anderson, W. W. Parker, J. A. Cunningham, John Knox, Briggs, Higginbotham and Mason.

Dr. Peachy, from the committee on nominations, presented the following names for membership:

Dr. James E. Reeves, Philippi, Va.; Dr. S. L. Ingram, C. W. Brock and Edmund Mason, Richmond; Edwin Barbour, Henry court-house; Francis D. Cunningham; Dr. D. W. Thomas; Marion Howard; W. B. Robertson—who were unanimously elected.

Dr. Haxall moved that when the society adjourns, it adjourn to meet at 8 o'clock P. M.

Adopted.

Reports of committees were then called for.

Dr. Charles E. Anderson, treasurer, reported amounts received, $94 54. Disbursed, as per statement of report, $70 75. Balance on hand, $23 79.

Drs. Drew and Hill were appointed to audit the treasurer's account.

Dr. James Bolton, chairman of the executive committee, reported that the committee had held but one meeting since their reappointment, and had simply elected thirty-five members of the society as delegates to the American Medical Association, to meet on Tuesday next, in Louisville, Kentucky, as required by a late law of the society.

Dr. Charles E. Anderson presented two letters—one from Dr. Walter Sommerville, the other from Dr. H. C. Worsham, each resigning his membership—the first upon the ground of infirmity, &c.

A discussion here sprang up on the motion of Dr. James Bolton, not to accept the resignation of Dr. Worsham, but to reject his tender of resignation, and elect him an honorary member of the society.

It was ruled by the president, that the society had no power to refuse a resignation of any member who stood clear of the treasurer's books.

The subject was discussed by Drs. Bolton, Gibson, Tucker, Dove and Parker. Dr. Bolton appealed from the decision of the chair, and the appeal was sustained.

On motion, the resignations of both gentlemen were accepted, with the understanding that at the proper time Dr. Worsham would be proposed as an honorary member.

The committee having charge of the bill before the state senate, providing for the establishment of a board of medical examiners, was called upon for their report.

The president, Dr. James Beale, was absent, and Dr. Parker, a member of the committee, reported informally, that the committee had had no meeting since the last instructions from the society, at its annual meeting in April last, and that the present bill was therefore identical with that before the society at its last meeting.

The printed bill was presented and read by the secretary.

Dr. John Dove moved that each clause be acted upon seriatim.

1st clause adopted without alteration.

2d clause adopted—inserting the words such "dentists excepted" (by Dr. Haxall), and the words $500 "for every offence."

3d clause adopted without change.

4th clause adopted without change.

5th clause—Substitutes "board of medical examiners" for "board of physicians," and provides "that no student shall pass the board with three members thereof opposing."

During the discussion of other provisions of the 5th section,

On motion, the society adjourned to meet at 8 o'clock P. M.

Evening Session.

The society met according to adjournment.

At 8½ o'clock Dr. Joynes took the chair, and the consideration of the 5th section of the bill for the establishment of a medical board was continued.

Dr. Bolton moved that when the society adjourns, it adjourn to meet to-morrow at 12 M., when the president will have an opportunity of delivering his address.

Agreed to.

The question was raised whether the society would accept the bill from the legislature, without that provision in the fifth section, requiring the candidate to bring a diploma from some chartered medical school.

This question was discussed at some length, by Drs. Bolton, Tucker, Gibson, Haxall, McCaw and Parker.

Dr. Joynes moved that the words "instruction in practical anatomy," be inserted in the fifth section as a qualification of the candidates; also, that clinical instruction be required.

Dr. Tucker opposed this motion, on the ground that at the university no clinical instruction was given. He insisted upon the diploma qualification.

Dr. Joynes withdrew his motion.

The fifth section, as amended, was then adopted.

The sixth section was then taken up, which declares that the governor shall appoint the members of the board.

Dr. Tucker strenuously opposed this feature of the bill. He deprecated political influences in medical matters. Had no respect for political doctors.

Dr. Tucker moved that the board be constituted of one member from each of the three medical colleges of the state, and six other medical men, not professors, but chosen by the three professors above mentioned.

Dr. Parker moved that the board be constituted of one from each of the three medical colleges, and the remaining six be appointed by the Medical Society of Virginia.

Dr. Bolton supported this motion.

Dr. McCaw moved as an amendment to Dr. Parker's resolution, the following: That the board be composed of three members appointed by the colleges as aforesaid, three by the state society, and the remaining three by the governor, not professors in medical colleges.

This amendment was accepted by Dr. Parker, who moved his resolution, as amended, as a substitute for the motion of Dr. Tucker, and it was adopted.

Dr. Bolton wished to know if the society could prescribe the manner of appointments in the bill before the legislature.

The president answered that the bill, when passed by the legislature, would prescribe the manner of constituting the board.

Dr. Parker moved that the sum of $10 in this section be stricken out and $20 inserted.

Adopted.

The entire section, as amended, was then adopted.

Sections 7 and 8 were adopted without discussion.

Section 9 was stricken out. This section excluded professors in colleges from serving on the board.

Section 10.—Insert in the last line, "or who has been a resident practitioner within the same," in lieu of "practicing physician."

Section 11 and the last, was passed without discussion.

On motion, the bill, as amended, was adopted.

Dr. Parker moved that the committee in charge of the bill now before the senate, be also charged with the amendments just adopted by the society, and that they withdraw the bill from the senate for that purpose.

Adopted.

Dr. McCaw moved that the committee be instructed to withdraw the bill, as amended, if it should be ascertained that any serious alteration in the 5th section be insisted on by the legislature.

On motion, the society adjourned, to meet to-morrow at 12 M.

WEDNESDAY, April 27, 1859.

The society met at 12 o'clock M., according to adjournment—Dr. Joynes in the chair.

The secretary read the proceedings of the meeting of the previous day; which were approved.

Dr. Gibson moved that the order of the day (the delivery of the president's address) be postponed, in order to go into the election of officers.

Adopted.

Dr. Gibson nominated for president of the society, Prof. James L. Cabell, of the University of Virginia; who was unanimously elected.

Dr. Tucker nominated the following vice-presidents: Drs. James B. McCaw and R. T. Lewis, Richmond; H. Claiborne, Petersburg; Stapleton Coates and C. Archer, Henrico, and Dr. J. A. Cunningham, city of Richmond; who, with the following other officers of the society, were elected, viz: Corresponding secretary, Dr. St. Geo. Peachy; recording secretary, Wm. W. Parker; assistant recording secretary, Blair Burwell; treasurer, Chas. E. Anderson.

Executive Committee.—Drs. Jas. Bolton, O. A. Crenshaw, R. W. Haxall, Jno. A. Cunningham and J. Dorsey Cullen.

Committee of Nominations.—Drs. Peachy, Drew, Mills, Pollard and William Anderson.

Dr. Bolton moved that the society go into the election of honorary members.

Agreed to.

The constitution authorizes the election of eight honorary fellows—four from the state of Virginia, and four without the state. It is, however, optional with the society to elect the whole number. Those entitled to this honor must have been either president of the society or have performed eminent services to the profession.

Dr. James Bolton nominated Dr. H. C. Worsham.

Dr. Crenshaw nominated Prof. L. S. Joynes.

Dr. Haxall nominated Dr. James Bolton.

There being no other nominations, these gentlemen were balloted for, and unanimously elected.

The order of the day was then called up, and the president, Dr. Joynes, proceeded to deliver the annual address.

The speaker deplored the want of a more general interest among the medical men of the state, in the prosperity and efficiency of the society—showed the importance of union and concert of action—instance the value of the medical societies of London and the academy of Paris, in giving tone and efficiency to medical reform and progress. He also referred to what had been done by several state societies in this country in the same direction. He alluded to the imperfect knowledge of the faculty in regard to many of the diseases peculiar to our climate, and the necessity of close observation of physicians in favorable localities, to study the influences of malaria upon the epidemic pneumonias which are sometimes so destructive to human life. As an evidence of progress, and the elevation and advancement of medical education, the doctor referred to the convention about to assemble at Louisville, Ky., in accordance with the recommendation of the great American medical association—said convention having representatives from any medical school in the Union—the special object being to lengthen the course of lectures with colleges throughout the country, and to raise the standard of requirement for the degree of "M. D."

The address occupied about three quarters of an hour. It was clear, forcible and conclusive in the points discussed, and was received with hearty applause.

Dr. Bolton moved thanks to Dr. Joynes for his address, and asked for a copy for publication.

Adopted.

Dr. James B. McCaw (1st vice-president) took the chair, vacated by Dr. Joynes, the late president.

Dr. Tucker moved that 500 copies of the address be printed.

Dr. Gibson proposed 1,000 as an amendment.

Dr. Parker opposed the amendment.

Dr. Bolton sustained the opposition.

Dr. Bolton said that the society was still in debt, and it being stated by the president, Dr. McCaw, that the address would appear in his journal, and thus reach nearly a thousand medical men, the amendment of Dr. Gibson was withdrawn, and the motion of Dr. Tucker passed.

Dr. Gibson moved that the Transactions of the meeting be appended to the address of the president.

Adopted.

Dr. Haxall moved that 500 copies of the bill, as amended, asking the legislature to establish a board of medical examiners, be printed.

Carried.

The following is a copy, as amended:

A Bill to provide for the Establishment of a Board of Medical Examiners.

1. Be it enacted by the general assembly of Virginia, that from and after the —— day of ——— 1859 no person shall be allowed to practice medicine, or surgery, or any of the branches thereof, or in any case prescribe for the cure of disease, for fee or reward, unless he or they shall have been first licensed to do so in the manner herein after to be described.

2. If any such person shall, after this date, presume to practice medicine, surgery, or any of the branches of either, dentistry excepted, or in any manner to prescribe for the cure of disease, for fee or reward, he or they shall be liable to be indicted, and on conviction, fined the sum of five hundred dollars for every offence—one-half of the fine to enure to the informant, and the other to the treasury of the commonwealth.

3. On trial of all indictments for any of the offences enumerated in this act, it shall be incumbent on the defendant to show that he has been licensed to practice medicine and surgery, and to prescribe for the cure of disease, in the manner herein after to be mentioned, to exempt himself from the penalties enumerated in this act.

4. All bonds, notes, promises and assumptions, made to any person or persons not licensed in manner herein after mentioned, the consideration of which shall be services rendered as a physician or surgeon, in prescribing for the cure of diseases, shall and they are hereby declared to be utterly void and of no effect.

5. In order to the proper regulation of the practice of medicine and surgery, there shall be established a board of medical examiners, to consist of nine members, who shall examine, on the usual branches taught in the schools, all applicants for license to practice; and if, on such examination, they be found competent, shall grant to such applicants a license or diploma: provided, that seven members of such board shall constitute a quorum: and provided, that five out of the seven be agreed on the qualifications of said applicant: and provided such applicant shall have received a diploma from some chartered or incorporated medical school or college, and shall be twenty-one years of age, and can show evidence of a good moral character.

6. The board of medical examiners shall be appointed once in six years, and shall assemble in the city of Richmond for the purpose of conducting examinations annually on the first Monday of May—three of its members to be appointed by the Medical society of Virginia, three by the governor, and one member from each of the state colleges; and the said board shall be entitled to receive and demand of every applicant the sum of twenty dollars, and for every license the sum of two dollars.

7. The board of physicians shall be and they are hereby authorized and empowered to elect all such officers, and to frame all such by-laws as may be necessary to carry the law into effect; and in case of death, removal or refusal to act of any member of the said board, the said board or a quorum of them shall be and they are hereby empowered to fill such vacancies.

8. To prevent delay and inconvenience, two members of the board may grant temporary license to applicants therefor, and make report thereof to their next regular meeting for confirmation: provided, that such temporary license do not continue in force longer than the next regular meeting of the board, and that a temporary license shall in no case be granted by any two of the board, after the applicant has been refused a license by the board of physicians.

9. No part or clause of this act shall have any operation or effect upon any person who has been a resident practitioner of medicine or surgery in this state.

10. The board shall cause to be entered in a book to be kept by them for that

purpose, the names of each and every person they shall license to practice medicine and surgery, and the time of granting the same, together with the names of the members of the board present, and shall publish them in some newspaper in the city of Richmond, within thirty days after granting the same.

Dr. Peticolas moved that the president appoint a committee of five to see to the proper distribution of the address and other documents printed.—Adopted.

Dr. Wm. H. Taylor, one of the essayists appointed at the late annual meeting, was called upon, and read an essay on

The Difficulties of Success in Professional Life.

The Doctor said, as the difficulties are fresher in his mind than the successes, that he would confine his remarks chiefly to that branch of the subject, and deduce his reflections from direct, personal observation—that he, like most young men, had been studiously taught by his venerable preceptor, to rely with great confidence in the treatment of his patients, upon the "vis medicatrix naturæ;" but he had of late been led to fear that this valuable assistant was becoming a formidable foe—that she seemed inclined to do all the work and leave the young doctors to starve. The essay of the Doctor was well conceived and highly amusing; and though confessedly upon a trite subject, was handled in an original and exceedingly interesting manner, and was very well received by the audience.

Dr. Haxall moved the thanks of the society to Dr. Taylor for his essay.

Carried.

Dr. Parker stated that Dr. C. Archer, the other essayist, had been prevented from being present and reading his paper, because of ill health. He moved that he be reappointed.

Adopted.

Prof. Tucker nominated Dr. Blair Burwell as the other essayist for the next meeting; who was unanimously elected.

A committee of three was appointed to prepare, before the next meeting of the society, a correct list of members. Committee—Drs. Anderson, Peachy and Parker.

Dr. Parker moved that in accordance with the recommendation of the president's address, the subject of be selected for discussion at the next meeting of the society.

Carried.

Dr. Haxall moved that the blank be filled with "typhoid fever."

Adopted.

Prof. Gibson suggested as one of the means of securing a fuller attendance upon the meetings in future, the extension of more hospitality to country members by the city doctors.

Dr. Bolton heartily approved of the suggestion.

Dr. Joynes suggested a public dinner.

After some discussion as to the best mode of carrying out these suggestions,

On motion of Dr. Gibson, the subject was committed to the executive committee.

After the passage of several unimportant resolutions, the society adjourned sine die.

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Annuaire de Thérapeutique, pour 1851, page 199.

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" - -	bottles of 100 granules
" and powder of belladonna,	in bulk
" - -	bottles of 100 granules
" of hyoscyamus, -	in bulk
" - -	bottles of 100 granules
" ipecac. - -	in bulk
" - -	bottles of 100 granules
" opium, - -	in bulk
" - -	bottles of 100 granules
Proto-iodide of mercury, -	in bulk
" - -	bottles of 100 granules
Colchicum (each granule is equal to 2 drops of tinc.) -	in bulk
" " "	bot. of 100 granules

DRAGEES.

Ext. of ipecac. 3-50 gr. equal to ½ grain pow. - - -	in bulk
" " "	boxes of 100 dragees
Carbonate of iron, Blaud's formula,	in bulk
" " "	bottles of 130 dragees
" " Vallet's formula,	in bulk
" " "	bot. of 130 dragees
Carbonate of manganese and iron,	in bulk
" " "	bot. of 130 dragees
Kermes, 1-5 grain, -	in bulk
" " -	boxes of 80 dragees
Santonine, ½ grain, - -	in bulk
" " -	boxes of 40 dragees
" " -	boxes of 20 dragees
Bi-carbonate of soda, 4 gr. each,	in bulk
" "	bottles of 130 dragees
Magnesia and rhubarb, 1 gr. of each,	in bulk
" " "	bottles of 130 dragees

Dragees of pougues alcaline, magnesian ferruginous, in boxes.

Dragees in bulk, come out in bottles of 500 each, unless ordered otherwise.

Dragees of U. S. P.

Aloes and myrrh, 4 grains, -	in bulk
Compound cathartic, 3 grains,	"
Aloetic, 4 grains, -	"
Assafœtida, 4 grains, -	"
Aloes and assafœtida, 4 grains,	"
Dinner pills, Lady Webster's, 3 grains,	"
Comp. calomel, Plummer's pills, 3 grs.	"
Blue pills, 3 grains, -	"
Opium pills, 1 grain, -	"
Calomel pills, 2 grains, -	"
Opium et acet. plumb. each 1 grain,	"
Extract of rhatany, 1 grain, -	"

Dragees of 1 *grain each.*

Quevenne's iron, reduced by hydrogen,	in bulk
" " "	bottles of 100 dragees
Conicine, - - -	in bulk
Proto iodide of iron, -	"
" "	bottles of 100 dragees
Lactate of iron, - -	in bulk
" " -	boxes of 130 dragees
Sulphate of quinine, -	in bulk
Valerianate of quinine, -	"

Dragees of 2 *grains each.*

Citrate of iron, - -	in bulk
" " -	bottles of 130 dragees
Willow charcoal, -	in bulk
" -	bottles of 150 dragees
Diascordium, - -	in bulk
" -	bottles of 130 dragees
Anderson's anti-bilious and purg. pills,	in bulk
" " "	boxes of 80 dragees
Extract of gentian, -	in bulk
Iodide of potassium, -	"
Calcined magnesia, -	"
" -	boxes of 200 dragees
Rhubarb, - -	in bulk
" -	boxes of 100 dragees
Ergot, powder cov'd with sugar as soon as pulverized, - -	in bulk
Phellandria seed, -	"
"	bottles of 150 dragees
Washed sulphur, -	in bulk
Sub-nitrate of bismuth, -	"
" "	boxes of 200 dragees
Tartrate of potassa and iron,	in bulk
" " "	bottles of 130 dragees

Dragees of copaiba, pure solidified,	in bulk
" " -	bottles of 72 dragees
" " and cubebs,	in bulk
" " "	bottles of 72 dragees
" " cubebs & cit. iron,	in bulk
" " "	bottles of 72 dragees
" cubebs, pure, -	in bulk
" " -	bottles of 72 dragees
" " and alum, -	in bulk
" " "	bottles of 72 dragees
" " rhatany and iron,	in bulk
" " "	bottles of 72 dragees

These pills are covered with a coating of sugar, and present great advantage in the quadruple point of view of the exactness of the weight of the medicines, of its perfect preservation, its convenient and agreeable administration, and above all, its greatly increased therapeutic action.

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Graduates of the Philadelphia College of Pharmacy,

Corner 4th and Franklin Sts.

RICHMOND, VA.

Would inform country Physicians that they have now in store an extensive stock of perfectly new and fresh Medicines, Chemical and Pharmaceutical Preparations, together, with Surgeons' Instruments, Medical Saddle Bags, Medical Wares, Implements and Apparatus, and all other things in the Drug line. Their Pharmaceutical Preparations are prepared by themselves from the most efficient ingredients, strictly in accordance with the U. S. Pharmacopœia, and are warranted as being properly prepared, perfectly reliable, and of full medicinal power.

Chemical and Pharmaceutical Preparations made to order at all times.

Fresh Vaccine Scabs, of reliable quality, always on hand, and will be sent securely by mail, when desired.

They have made arrangements by which they will be enabled to furnish with dispatch any Medicinal agents whatever, whether Foreign or Domestic.

☞ Special attention paid to packing and shipping goods.

N. B.—They have now in store Blancard's Pure Iodide of Iron Pills; Vallet's Genuine Proto-carbonate of Iron Pills. Genuine James' Fever Powder, and Medicine Envelopes for administering medicines without the patient tasting or smelling them.

☞ We have also for sale MULLER'S URINOMETER, for measuring the specific gravity of urine, recommended by all the most eminent physicians of America as being a useful and convenient instrument.

Jan. 1857—1y

R. H. MEADE. T. ROBERTS BAKER,
Graduate Philad'a College Pharmacy.

MEADE & BAKER,

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Have opened and fitted out with many improvements and conveniences an Apothecary Store, where they are prepared to supply Physicians and others with every article in their line, upon the most reasonable terms, with neatness and dispatch. They will at all times keep a full assortment of Surgical Instruments and Appliances; Trusses in great variety; Abdominal Supporters; Rare Chemicals, native and foreign; Pure and reliable Drugs and Medicines; English, French, German, and all the new and standard Pharmaceutical Preparations; Physicians' Saddle Bags and Pocket Cases; Family Medicine Chests, and every article usually found in a Drug Store.

Prescriptions will be carefully and accurately dispensed by one of the partners at all hours of the day and night.

VIRGINIA

MEDICAL JOURNAL.

JUNE 1859.

ART. I.—*Continuation of Joseph Kanski's Case, and his Autopsy.* Reported by J. M. CLEAVELAND, M. D., Physician to the State Asylum, Utica, New York.

EDITOR VA. MED. JOURNAL—DEAR SIR—Supposing that it might be interesting to you, I take the liberty of sending you a continuation and finale of the case of Joseph Kanski, published in the February number of your journal for 1859, furnished by J. M. Cleaveland, M. D., one of the assistant physicians of the State asylum at Utica, who made the autopsy; which, with Dr. C.'s letter, are at your disposal, to publish, if you please, with such remarks as you may deem proper in connection with what has been published.

In haste,
Very respectfully,
Yours, &c. &c.
J. P. BATCHELDER.

STATE ASYLUM, *Utica*, Oct. 22, 1858.

J. P. BATCHELDER, M. D.—DEAR SIR—I send you enclosed, my "notes of the last illness and autopsy of Joseph Kanski." (You will remember the patient, as CASE IV in your "Pathology and Treatment of the Paralysis of Motion.") He was admitted to this institution about a year ago. His pre-

vious history at that time could not be ascertained, and was first communicated to us by your article in the Virginia Medical Journal for March.

At our interview in June last, I informed you that in February preceding, an exostosis had appeared a little above and to the outside of the left frontal protuberance, which caused us to suspect a syphilitic influence at work. Tincture of iodine was applied locally, and the tumor was rapidly absorbed. At the same time he was put upon v gr. doses of iodide of potassium, administered three times a day. Under this treatment his general health improved very fast; the partial paralysis in right leg and arm disappeared, and the dragging movement in right foot was succeeded by a natural, elastic step. In May and June he could walk off six or eight miles without difficulty. The amendment in his mental condition appeared to progress equally with the physical improvement. There was less confusion of thought and of speech (although as respects the latter he had but a half dozen words of English at his command); his manner was more cheerful, and he was interested in those about him. This condition continued until the middle of July, when epileptiform seizures again occurred, confining him to his bed for a week, and attended with great prostration. After this paroxysm passed off, he again appeared upon the hall, and was well enough to take daily outdoor exercise, up to within a day or two of his last illness.

I send you this short and imperfect account of Kanski's condition while here, thinking it may perhaps have some points of interest to you and to your associates, in the early treatment of the case.

I am, with great respect,

Your ob't serv't,

J. M. Cleaveland.

P. S.—After the attack in July, partial paralysis and the dragging of foot in walking, returned.

J. M. C.

Notes of Kanski's Case.

1858, Aug. 29.—Joseph Kanski was attacked yesterday by epileptiform convulsions of short duration, and following each other in quick succession throughout the day. These paroxysms ended in brief coma, and to this succeeded wild delirium, with great restlessness. He was constantly getting out of bed, marching forward and then backing, chaunting a kind of monotone, which he accompanied by clapping his hands. This he did, until another fit interrupted his singing. When spoken to, he made no reply. The face was drawn down towards the left shoulder, and the muscles of the neck of that side were in a state of tonic spasm; left angle of the mouth also drawn down. There was considerable tumefaction over the seat of former injury (where the blow had been received). The eyes were bright and sparkling; pulse full and strong; bowels constipated, but moved by a drop of croton oil. On account of his restlessness, he was put in a crib bedstead. To-day his condition corresponds with that of yesterday, except that the epileptiform seizures are less frequent.

Aug. 30.—Has slept none during night; sings and shouts; dashes and bruises himself against the sides of his crib, requiring constant attendance; takes no notice when spoken to; expression anxious, and indicative of suffering; pulse 148, full and strong; respiration 46 per m.; deglutition difficult, but no other evidence of trouble in throat; no paralysis in either extremity.

Aug. 31.—At 5 P. M. yesterday profuse perspiration broke out over entire body, accompanied by burning hot skin and flushed face. This lasted until midnight. Pulse at this time 130. At 2 P. M. last night the delirium subsided, and he apparently recognized those about him. This morning (10 A. M.) has had three convulsions—the first lasting half an hour—the last two light—these not succeeded by delirium. He is quiet, and seems conscious; replies readily in

monosyllables when interrogated; says he has no pain any where. On making very light pressure over seat of injury in head, he says "no," when asked if it hurts him; but an increase of pressure seems to disturb him—and on bearing down more firmly upon the spot, he becomes delirious—chaunting and shouting. On removing the pressure, the excitement subsides. During a fit, and often at other times, the eyes are drawn upwards into left angle of orbit. Pulse 144, of fair strength; respiration 46; surface wet with cold perspiration. There is to-day paralysis (almost entire) of right arm. He is able to flex right leg, but has constant spasmodic twitchings in flexor muscles of same. These twitchings are also present in left arm and leg. A remarkable fissure exists over tempero-parietal suture, feeling as though the bones had been crowded apart, and the cranium appears bulged out in that region.

6 P. M.—No more convulsions, but great prostration.

11 P. M.—Died.

Autopsy forty hours after death. Rigor mortis well marked; eyes retreated within orbits; slight irregularity, but no marked depression existed in region of skull where injury had been received. On removing skull cap and making section of membranes, there was marked congestion of the vessels of the pia mater, throughout its entire extent. The surface of the brain presented the milky appearance characteristic of serous effusion beneath the arachnoid. The two anterior lobes of the brain were adherent by false membrane recently effused throughout the whole length of the longitudinal fissure. The anterior and middle lobes were also closed in a similar manner. The dura mater was adherent to the brain by old adhesions throughout an oval space, limited anteriorly by the spot where the blow had been received, extending backward about four inches, and laterally three and a half inches to left of median line. The falx cerebri also was adherent to the left lobe of the cerebrum, throughout the whole depth of longitudinal fissure. Within the substance of the left hemisphere, under the adherent

dura mater, the brain matter was very markedly softened throughout an ovoid space as large as a hen's egg. There were no adhesions at base of brain.

ART. II.—*Trials and Difficulties of a Professional Life—An Address before the Medical Society of Virginia.* By WM. H. TAYLOR, M. D., Richmond.

IN accordance with a request made at your last meeting, I appear before the Association to-day, for the purpose of reading an Essay. And permit me to say, that while I cannot regard the call thus made upon me otherwise than as a high compliment, and while I am not only willing but anxious to make a somewhat adequate return for this flattering mark of appreciation, I have to fear that my efforts will serve merely to diversify our proceedings, rendering them but little more interesting, and not at all more profitable. I am not vain enough to suppose that I can enlighten you in respect to any of the practical points of our profession; nor shall I attempt to win your applause by presenting, as the results of my own thoughts or labors, a rehash, made up from the writings of the authorities, when I am aware that of these matters you have learned, in the school of experience, what I know only from books. Gladly would I, if I could, attract you by an elucidation of some of the mighty mysteries which baffle us in our pursuit of knowledge, or startle you by an announcement of some grand and useful discovery; but candor compels me to avow that the fires which light up the shrines of the God of Medicine have not, as yet, been made to glow particularly brighter by my admission into his temple.

Actuated by these considerations, I was for some time embarrassed in the selection of a subject; but, after mature reflection, I arrived at the conclusion that, upon the whole, it would be better to expatiate upon topics, about which I

know something—a very commendable plan, as I take it, and one which, if it were universally adhered to, would have the effect, at least, of occasioning the collapse of a good many gas bags. You may, therefore, receive the remarks which I am about to submit to you, as deductions drawn from personal experience. I claim for them this merit, if no other; for I can truly say with Æneas, when about to commence the sad story of his own and his fellow-sufferers' calamities, "*Ipse misserrima vidi, et quorum pars magna fui,*" *et sum.*

My subject, gentlemen, is "the trials and difficulties of a professional life."

The course of human existence, like that of its greatest solace and support, love, cannot often be likened unto a rail way, except in so far as this term is synonymous with the road to danger and to death. Rarely, indeed, is our path entirely free from obstacles. From the time we begin to walk alone along the dusty road, and all the way to the end of the journey, they thrust themselves before us, and impede our progress. Sorrow is the common lot of all mankind. But, as you may possibly have heard this idea advanced before, I will not elaborate it, but content myself with a mere allusion to the fact, that while we are all as individual members of the human family, doubtless abundantly blessed. each with his own proper share of the general stock of affliction, yet, that, as a class, the medical profession are the unfortunate recipients of an additional quantum of misery, superimposed, as we may say, by virtue of their office. I purpose to enquire somewhat into the etiology of this condition, and investigate some of its more prominent causes; but, at the same time, I do not intend to enter very deeply or systematically into their discussion; but taking them pretty much as they may chance to present themselves to my mind, I shall consider them as briefly and pointedly as possible.

First and foremost among the difficulties attendant upon a professional life, is the difficulty of getting practice; and

as this may be regarded as the grand climax and sum total of all other difficulties, and as it is more or less connected with every other difficulty, either in the relation of parent or offspring, my remarks upon this branch of the subject will embrace nearly all I have to say on this occasion.

You all, doubtless, sometimes experience the effects resulting from that perverse tendency to health which is occasionally so alarmingly prevalent in the community, and are often, probably, constrained to wish that the vis medicatrix naturæ would relax a little in her vigilance; and I fancy that even the most benevolent among you, though he may not be desirous that any ill should befall his fellow-creatures, does not feel particularly miserable in the contemplation of an opportunity of relieving their sufferings—*for a consideration.* And it is perfectly natural that it should be so. Doctors must live as well as other people; and however cannibalistic it may sound, it is nevertheless true that sick men are our food. When they are plentiful, we wax fat; when they are scarce, we grow lean; deprive us of them altogether, and we perish. Is it unreasonable in us, then, to complain when we are threatened with a dearth of patients? Or, are we to be censured with misanthropy, because we cannot look complacently upon the destruction of the only barrier between us and starvation? No—rather let a generous public rejoice and be exceeding glad when sickness is abroad in the land, and eagerly embrace the occasion as a fit opportunity for rewarding and encouraging those whom they all agree in pronouncing a most estimable and useful class of the community.

Though a scarcity of patients is a calamity to which every member of the fraternity is to a greater or less degree liable, yet it is one to which the young physician is specially obnoxious. He has but little to do with patients, unless it be with the kind which has rendered Job famous. He knows nothing of those harassing cares of practice so feelingly portrayed and so bitterly bemoaned by his elder brethren; but with the blind impetuosity of youth, undaunted

by the gloomy picture, and refusing to be profited by the experience of others, how eager he is to become expert in this dark knowledge, and to realize in his own case the miserable feelings of a thriving doctor! He affords a practical illustration of what *otium cum dignitate* is; his leisure undisturbed, his dignity self-sustaining, but all-sufficient still. He can retire to his virtuous couch at the close of the day busily spent in doing nothing, free from the burden of responsibility, and composing himself to slumber, sleep on with the almost certain assurance that his rest will not be disturbed by the midnight summons.

At first, he submits to this state of affairs very philosophically. He did not expect to jump into a practice; it is natural enough, he thinks, that people shouldn't patronize him till they know he has graduated; and deriving great hope and encouragement from the reflection that crawling is preliminary to walking, he awaits in confidence the dawning of that better day in which he shall enjoy the honors and emoluments of a medical oracle. But, like the gentleman who didn't mind making his dinners on herrings for two or three hundred times or so, but objected to them as a constancy, he soon finds that it is too monotonous to be agreeable, and begins to perceive that among the greatest uncertainties of medicine is the uncertainty of making a living by it.

In vain he resorts to the most approved arts and appliances known to the profession, for the purpose of decoying the public. He may assume a grave and dignified appearance, and put on a sagacious aspect and a pair of green spectacles, and may perambulate the highways and byways of the city with a big stick; or, if he can start a horse, he may imperil his neck in his efforts to look busy; but they see through it at once. They laugh at his dignity, and poke fun at his specs; his stick is looked upon only as the means of cracking jokes at his expense, while the horse excites no higher emotion in the minds of the admiring spectators, *than* a curiosity to know whether his salt is paid for.

The more youthful portion of his acquaintances persist in calling him by his christian name, and with the most insufferable familiarity, ask him how many patients he has, and if it don't frighten him to go so much amongst sickness. Or, even if they deign to address him as "Doctor," it is done in a manner so palpably ironical, that it almost makes him ashamed of the title. While, on the other hand, those who are a few years his senior, invariably presume upon their advantage, and consider themselves thereby fully authorized and entitled to advise and criticise, and to speak to him, generally, pretty much as they choose. They affect to feel great interest in his prosperity, and are excessively patronizing towards him in every thing, save in the one little item of practice. They are very fond of substantiating their profession of friendship by the frequent manifestation of a tenet, which we are told is characteristic of our best friends—that of telling us of our faults—a test which, if it be reliable, furnishes a most emphatic contradiction to the oft-repeated assertion, that "friendship is but a name." These venerable men apparently ignore the idea that the doctorate is compatible with youth, and they, too, are very chary in giving the young physician his title. They much prefer to address him as "my son," or "my boy;" and some of them so far forget themselves as to call him "sonny." They always encourage him with the hope that, if he will do right (which, being interpreted, means, doing as they tell him), he will ultimately meet with abundant success, if he only waits long enough; and they influence his tender mind with most diabolical notions, by suggesting that the old doctors can't live forever, and that he musn't expect to do much till it shall please the Lord to take them out of his way. This is the reception the youthful practitioner meets with from his friends; the young ones won't believe that he is a doctor—the old ones can't—while the public generally are indifferent about it, one way or the other.

I have spoken somewhat at large on this point, because I happen to be one of the unfortunates myself, and the sub-

ject, consequently, is one of personal interest to me. I am not able to say much by way of consolation to those who, like myself, are laboring under the ban of youth. I can only tell them, I have been much comforted and encouraged by the reflection that it is my misfortune, not my fault, that I am young, and that every day renders the objection less valid, and that in a little while, Old Father Time, with his iron scythe, will free me from it altogether. If they like this philosophy, let them make the most of it.

But, to most of you, youth is no longer an obstacle in the way of attaining to a practice. This difficulty has been surmounted, and you are now called upon to encounter others not so susceptible, perhaps, of removal. Popular prejudice and popular ignorance baffle you still. In some of their baleful forms they oppose you at every step, becoming the source of many of the graver evils under which we labor as a profession, and the foundation of a world of petty annoyances and troubles. The life of the medical man is a continual warfare against them; and, compelled as he is to meet them, he must, by turns, conquer, yield to, or compromise with them. But contend with them as we may, their destruction is impossible; and however devoutly we may wish it, it is a consummation not to be expected; for as long as people have the choice between right and wrong, they will avail themselves of the privilege; and the immense majority will prefer the latter.

We are all creatures of prejudice. The disposition to the formation of opinions founded upon an insufficient or irrational basis, and to their maintenance as though they were the inevitable deductions from the most elaborate and perfect reasoning, is one of the attributes of human nature. It becomes us, therefore, to make some allowances for this universal failing, and to bear with its unavoidable evils as patiently as possible. Not that we are to yield to all its whims and caprices. This would be bad policy, indeed. We are often able to overcome them; and it is both our duty and our interest to strive against them whenever they

are encountered, as long as there is a prospect of success. But we must all have met with instances where an erroneous idea (erroneous, at any rate, in our own opinion), had so established itself in the mind, that opposition to it was useless. In such cases we must needs submit; for the power that could remove mountains, would find itself powerless against a well-rooted prejudice, and our resistance to it would be productive of injury rather than benefit. I speak now of the prejudices of individuals. We *must* humor them, sometimes. But with those common to a whole community, I hold that compromise is not to be thought of. On the contrary, it is imperatively demanded of us, not alone for our own, but for truth's sake, that we wage a vigorous warfare against them, and relax not in our efforts, even though, like many of our noble brethren, we should receive no other reward for our good endeavors than popular hatred and neglect. Our profession has had at all times worthy and self-sacrificing champions, who have contended manfully in this cause. Much has been accomplished by them. They have opened the eyes of the people, and enabled them to take in more liberal and comprehensive views, and, were it not that it is a hydra-headed monster, and that as soon as one head is amputated another springs up to take its place, we might be led to hope that the day will ultimately come when popular prejudice will be no more.

Hand in hand with prejudice, goes ignorance. It is astonishing how little is known by the public generally concerning medical matters. Nor is ignorance in this respect confined to the vulgar. Men, well educated and intelligent, are found giving countenance and support to doctrines and practices, whose reception would seem to require an amount of credulity bordering upon superstition. We laugh at the deluded darkey who puts his trust in "conjure roots," and call him a fool. But what shall we say of those, who, claiming to possess minds matured and capable of rational reflection, can yet gravely discourse of the wondrous virtues resident in the decillionth of a grain of charcoal? Or what

shall we think of the logic which essays to prove, that because minerals are of the earth earthy, therefore it follows, that those who venture to use them as medicines, are liable to be sent by them into their own dark abode; whereas, vegetables having a natural tendency to come up out of the earth, are thereby endowed with the property of keeping their patrons from going down into it? A process of ratiocination, by the way, which should convince the botanics of the necessity of putting their houses in order; for while plants do come up out of the earth, they are by no means, as a general thing, disposed to remain upon its surface, but leaving it as fast as they can, they direct their course towards heaven, and admonish those who swill down hot teas and revel in aromatic tonic stomach bitters, purely vegetable, that there is a possibility of being carried by their natural tendencies (of the vegetables, if not by their own), away from the groveling scenes of earth to regions where things look blue.

A thousand absurdities of this character prevail among even the better informed classes of the community, while ten thousand, less important in their general effects indeed, but entailing far more annoyance and vexation, embarrass us in our intercourse with the more illiterate of our patients. All of which, I will have the charity to believe, is the result, rather of an indisposition or inability to think, than of any purpose to impede or harass us.

I do not desire to make disparaging discriminations, but I hope I will be forgiven for the expression of my opinion, that decidedly the most venomous among those who are thus unwittingly our foes, and the most to be dreaded on account of their ignorance, is the elderly female element of the population. I do not intend to undervalue their skill and abilities. I will not assert (though in this, I believe, I differ from many experienced and reliable observers) that they know nothing; for to know this is to reach a point in human knowledge beyond which even the sage Socrates confessed that he was unable to go. On the contrary, I

willingly bear testimony to the dexterity and thorough fitness for the business, which they evince in making gruel and mischief. But, notwithstanding I am well disposed to accord to them all of wisdom they can justly claim, I am not prepared to admit the orthodoxy of that article of their creed which teaches them to believe that they know every thing, and something else besides. And, though I ought to be duly grateful for any suggestions which it may please them to offer, or for a more active participation in the treatment of a case, and while I am not at all scrupulous about availing myself of any assistance which can possibly be derived from their mature judgment and rich experience, still I do not feel bound to confer with them in consultation, nor do I think it is right in them to accuse me of malpractice, should I disregard their advice altogether. As, however, they are somewhat of a peculiar people, very jealous of their dignity, and withal liberally endowed both with the will and the power to wreak vengeance upon any one not sufficiently complaisant towards them, I shall not venture to say any thing more about them.

While speaking of ignorance, I may as well observe, that that form of it manifested by some physicians themselves, in a want of knowledge of their profession, while it may subject them to the reproaches and ridicule of those who are more fortunate in this respect than themselves, nevertheless offer but little impediment in the way of their success among the masses, provided they are sufficiently blessed with that self-confidence and exalted opinion of their own abilities, which usually characterize those fools who rush in where angels fear to tread. I will not amplify this remark, but call upon the army of quacks to bear witness to its truth.

Of all the disagreeable circumstances connected with a professional life, perhaps the most productive of disquietude to the well-meaning and sensitive physician, are those resulting from the want of gratitude, so often manifested by those who have reaped the benefits of his skill and care.

How prone are people to become oblivious of services rendered, and how speedily do the waves of Léthe interpose between them and the doctor, and how effectually do they wash out from their minds the remembrance of their obligations to him?

This unthankfulness is due in great part, no doubt, to the unavoidable imperfections of our art. If we could always do what is demanded of us,—if we could always say to the sick, Arise, and to the dying, Live,—we should not want for popular applause and gratitude. But as, in the present condition of medical science, we are unable to perform miracles, but can only promise to do all we can, and as this not unfrequently falls below the standard of requirement and expectation, it is not surprising that we should sometimes fail to satisfy those who think we should exhibit the accuracy and certainty of the workman, with square and compass.

Another reason for this ingratitude may be found, perhaps, in the disposition which some persons have to look upon the practice of medicine as a trade, and nothing more. Such individuals, with ideas which do not extend beyond dollars and cents, are unable to conceive of any service for which money is not an ample equivalent, and deem the doctor fully compensated when he receives the fee for his ministrations. They are very prone to believe that the physician is actuated in the prosecution of his calling by no higher motive than his pecuniary benefit, and are apt to attribute to this alone any interest or anxiety which regard for his patient may cause him to evince. Persons entertaining such degrading views of the ends and objects of our profession, are necessarily ungrateful; and all we can reasonably expect from them, is prompt payment. Their principle would seem to require this, at least; and while we deplore their narrowmindedness, we should be more inclined to give them credit for the sincerity of their sentiments, did they less frequently transgress their own philosophy on the presentation of their bills.

As I have probably detained you long enough, gentlemen, I will here bring to a close my imperfect sketch of the "trials and difficulties of a professional life." I am aware that much more might be said, and better said. The subject is a comprehensive one; and I should have been glad, could I have discussed it more thoroughly and systematically; but, distrustful of my ability to do it justice, I have preferred rather to skim along its surface, as it were, and examine it merely in outline. I have confined myself, too, to the consideration of those difficulties and perplexities which have their origin outside of the profession—among the people; and would that I could say that here is their only source. But we cannot be unconscious of the fact, that many of our troubles spring from that unhappy jealousy and distrust of each other, which have rendered the controversies and disagreements of physicians proverbial. Could I hope that any words of mine would be instrumental in promoting that harmony and good fellowship which should prevail among us, they should not be wanting. I feel my inability in this respect, however; and as it is withal a distasteful theme, I let it pass.

You do not expect me to advise you how to meet and counteract these trials and difficulties. I know of but one remedy for a doctor's woes, and that is *patients*.

ART. III.—*Surgical Reports of Cases occurring in the Infirmary of the Medical College of Virginia, during the Service of* Professor PETICOLAS. By RANDOLPH MASON, M. D., Resident Surgeon.

CYNTHIA, black, æt. 21; abode, Halifax, N. C.; employment, field hand; previous health and habits, very good; admitted April 6th, 1859; disease, tumor in axilla.

History.—Has had a tumor in the right axilla for upwards of three years. No hereditary taint of constitution. None

of the glands of the neck have ever been enlarged; according to her account, none of the whole body, save those in the right axilla. Has been attended by a physician irregularly for the last twelve months. Treatment was counter-irritant and alterative. The tumor disappeared for some months, but returned so soon as the patient was put to work.

Report.—On examination, it was evident that an operation was indicated. Accordingly, the attending surgeon proceeded to remove this tumor on 11th April 1859. The patient having been placed upon a table, and chloroform being administered, a straight incision was made downwards over the tumor, which was then dissected out, leaving bare the axillary artery. No important vessels having been divided, ligatures were not required. The edges of the wound having been brought together by means of interrupted sutures, a greased rag and compress were firmly confined in the axilla. The patient was then put to bed, with the right arm confined to the side. Within the tumor were found small abscesses containing pus of a tuberculous appearance, but on examination under the microscope was found to consist of pus and oil globules.

April 12th.—Patient rested very little last night; considerable fever, with furred tongue and constipated bowels. ℞ Rochelle salts, ʒi. ℞ Calomel, grs. ij; pulv. ipecac comp. grs. iv, every 3 hours. ℞ Tinct. verat. viride, gts. ij, every 2 hours. Took only two doses. On examination, the wound seemed to be doing very well. Respiration hurried; pulse 160 in the minute. Bowels moved by the salts three times.

13th.—No better. ℞ Quiniæ sulphas, grs. v, every three hours, with a few teaspoonfuls of milk toddy. Discontinue compress. Apply chloride sodæ around the wound.

14th.—No change for the better; considerable swelling in posterior part of thorax; pulse still very fast; breathing hurried. Blister to back; champagne, ℥ss, every hour; quiniæ sulphas, grs. xv, every 4 hours, by the rectum.

19th.—Much worse; bloody discharge from the bowels; pulse 152, and weak; respiration very hurried; appetite is

a little better; considerable tympanites. Apply bladder of ice over wound; enema of assafœtida; blister to stomach and abdomen; continue quiniæ sulphas and brandy; tinct. opii, gtts. v, every 2 hours, until patient sleeps.

26th.—Has a diphtheritic affection of mouth and throat; wound discharges at least ℥vj of pus every day. ℞ Potass. chloras. grs. v; tinct. opii, gtts. v; aqua ℥i, every 4 hours. Discontinue quinine; inject wound with sol. of chlorate of potassa and chloride of soda. Diet, generous; compress and adhesive straps to posterior part of thorax; continue milk toddy.

May 2d.—Condition very critical; discharge of pus much larger; pulse 140 in the minute, and very weak; breathing hurried; vomiting. Continue the treatment; counter-puncture made through muscles of back, and kept open by a tent.

3d.—Very much improved; all the pus is now discharged through the counter-puncture; tongue cleaning off; pulse 130 in the minute, and stronger; respiration more calm.

9th.—Doing very well; slight pain in right hand and arm. Treatment tonic. Left out the tent this morning, as there was very little discharge from the wound.

12th.—Has cough and slight fever; sputa phthisical in appearance; tongue furred; bowels constipated. ℞ Ol. ricini, ℥j. ℞ Syr. ipecac, syr. scillæ, aa, ℥ij; tinct. hyoscyamus, ℥ss, M. Lig. One teaspoonful every 2 hours. Cod liver oil, ℥j, ter in die. Discontinue chlorate of potass. and tinct. opii.

May 17th.—Improving very fast; takes exercise in the open air. Discontinue all internal treatment, except the cod liver oil. Continue adhesive straps to wound.

May 30th.—Very nearly well. Continue cod liver oil.

June 6th.—Discharged cured.

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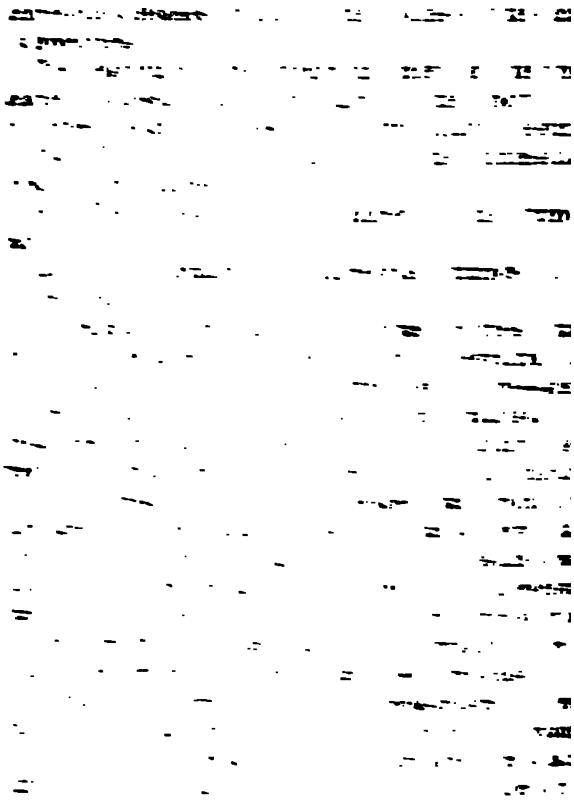
Mr. Birkett had been struck with the small number of cases collected by the author in which an operation had been performed, compared with the large number of patients not operated upon. He had had it in contemplation to bring before the society the results of an examination of a very large number of cases; and rather than make a selection in the ordinary way, which might lead to error, he intended to take the first hundred cases that died under his own observation, upon whom no operation had been performed, and then the next hundred that died, upon whom an operation had been performed. The latter were of course, to a certain extent, selected cases, because no surgeon would at once operate in a case which manifested appearances unfavorable to success; yet in many of the cases the operation could hardly be expected to prove of great ultimate benefit, and was only intended to remove a great source of local trouble and misery from the suffering patient. The average length of life in the cases in which an operation had not been performed, was three years and a half, and in the cases where an operation had been performed, it was four years and a half; thus giving the patient operated upon the benefit of one year's duration of life. He had also found that those upon whom the operation had been performed were benefited in another respect, inasmuch as although the disease returned, it did not return with the same virulence in the part primarily affected. In some few cases the patients were relieved from any local disease at all. In the cases quoted by Mr. Sibley, the duration of life was much shorter than in those that had come under his own observation. One of the patients who died, had been the subject of cancerous development, primarily in the breast, and extending over the body, upwards of thirty-two years. She complained that her first surgeon did not remove the disease, but she lived for twenty years without any trouble or annoyance. Another case lasted thirty-two years from the de-



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Mr. Arnott observed that the author had collected his facts with the greatest care, and the results he had arrived at were of the greatest importance to the profession. It had been a common idea that cancer occurred much more frequently in barren than in unmarried women. Mr. Sibley's investigations had set the matter at rest, by showing that a very small proportion of the patients in whom the disease

occurred were barren. The author had also mentioned another important fact—namely, that in cases of cancer of the mamma, the patients in whom the operation of extirpation had been performed lived two years longer than those in whom the disease had been allowed to run its course. The general opinion, however, had been that the operation accelerated the disease, and favored its rapid progress. Another point of much importance was the number of cases in which the disease was found to be purely local, one-half of the whole number having been shown to be of that character.

Mr. Birkett had been struck with the small number of cases collected by the author in which an operation had been performed, compared with the large number of patients not operated upon. He had had it in contemplation to bring before the society the results of an examination of a very large number of cases; and rather than make a selection in the ordinary way, which might lead to error, he intended to take the first hundred cases that died under his own observation, upon whom no operation had been performed, and then the next hundred that died, upon whom an operation had been performed. The latter were of course, to a certain extent, selected cases, because no surgeon would at once operate in a case which manifested appearances unfavorable to success; yet in many of the cases the operation could hardly be expected to prove of great ultimate benefit, and was only intended to remove a great source of local trouble and misery from the suffering patient. The average length of life in the cases in which an operation had not been performed, was three years and a half, and in the cases where an operation had been performed, it was four years and a half; thus giving the patient operated upon the benefit of one year's duration of life. He had also found that those upon whom the operation had been performed were benefited in another respect, inasmuch as although the disease returned, it did not return with the same virulence in the part primarily affected. In some few cases the patients were relieved from any local disease at all. In the cases quoted by Mr. Sibley, the duration of life was much shorter than in those that had come under his own observation. One of the patients who died, had been the subject of cancerous development, primarily in the breast, and extending over the body, upwards of thirty-two years. She complained that her first surgeon did not remove the disease, but she lived for twenty years without any trouble or annoyance. Another case lasted thirty-two years from the de-

velopment of the primary growth. The subject was operated upon by Mr. Key, and was free from disease for twenty-five years. She then went to the hospital with disease on the opposite side, and died in about three years. In another case the patient lived about twenty-eight years after the primary growth was removed. Out of the three hundred patients whom he had known to die of cancer, he did not believe there were more than four or five who had not had a secondary development. The mortality arising from operations, he believed, was very much over-estimated; it was supposed to be above ten per cent.; but in the hospital with which he was connected, it certainly did not reach five per cent.

The president, in answer to one of Dr. Webster's questions, stated that the act respecting chimney-sweeps was limited to children from ten to thirteen years of age, whereas epithelial cancer did not present itself till a later period; so that the disease was not affected by the act in question. So far as his own observation went, there had been no diminution of epithelial cancer within the last fifteen years.

Mr. Sibley regretted the smallness of the number of his cases in which operations had been performed. The records of such cases were often incomplete, as patients were lost sight of after leaving the hospital. The number of cases in which the records was complete, was sixty. There could be no error, however, in comparing a larger number of cases of patients who died without an operation with a smaller number in which the operation was performed, the result only being that in a larger number the average would be more correctly ascertained.

Mr. Moore observed, on referring to a portion of Mr. Sibley's paper, he found it stated that of the author's 519 cases, 103 occurred in males and 416 in females.

II. *Upon the Causes of Death after Amputation.* By Thomas Bryant, F. R. C. S. E., Assistant Surgeon and Surgical Registrar to Guy's Hospital.

The author, after having made a few preliminary observations, stated that his paper was based upon an analysis of 300 cases of amputations, collected from the records of Guy's hospital. He had divided them into four classes; and although he had not thought it necessary to alter the ordinary

division of traumatic amputations into primary and secondary, he has made some change in the division of the other forms; for it became evident, in the analysis, that the classing together of such cases as amputations for talipes, tumors, elephantiasis, deformity, and others of a like character, with those of diseases of the joints, a wrong result must ensue; and, practically, this was found to be the case. He therefore divided these cases into pathological amputations and amputations of expediency, choosing the latter term as more accurately expressing the reason for the operation, as limbs are removed for tumors, talipes, elephantiasis, and deformity, more from expediency than necessity; and he therefore suggested the use of such a term until a better was proposed.

The author then proceeded to an analysis of the table of amputations, including

167 cases of pathological amputations,
33 " amputations of expediency,
76 " primary amputations,
24 " secondary amputations;

and having given in detail the analysis of each division, he summed up the whole in the following general conclusions:

1. That in amputations of the extremities, taken altogether, 25 per cent. are fatal; 30 per cent. in the lower extremity, and 10 per cent. in the upper.

2. That amputations, as a whole, are fatal in the following order: secondary, 50 per cent.; primary, 43 per cent.; amputations of expediency, 30 per cent.; pathological amputations, 12.5 per cent.

3. That in pathological amputations of the
Thigh, 18 per cent. are fatal, or 1 in 5.5;
Leg, 7.7 " " " 13;
Foot and upper extremity, success generally follows.

4. That in amputations of expediency of the
Thigh, 31.5 per cent. are fatal, or 1 case in 3.16;
Leg, 66.6 " " " 1.5;
Upper extremity, fatal cases are exceptional.

5. That in traumatic amputations of the lower extremity, 60 per cent. are fatal; of the upper, 18 per cent.; and that traumatic amputations of the leg are, at least, as fatal as those of the thigh.

6. That secondary are more fatal than primary.

7. That in amputations of the thigh for chronic disease of the knee-joint, 1 case only out of 7 proves fatal,* or about

* The fatality of excision of the knee, according to Butcher, is at least 1 case in 5.

14.5 per cent.; but for acute suppuration, a fatal termination is the rule.

8. That in amputations of the lower extremity for tumors, 36 per cent. are fatal; of the upper, recovery may generally be expected.

The author then proceeded to the more immediate subject of the causes of death after amputations; and having given two tables, showing the different causes of death, and their proportions or per centages both to the fatal cases and the whole number of amputations, he went on to the analysis of each division, and having given a detailed account of each, he condensed the whole into the following conclusions:

General Conclusions upon the Causes of Death in Amputations generally.

1. That 25 per cent. are fatal.
   30 per cent. of the lower extremity.
   10 per cent. of the upper.

2. That pyæmia is the cause of death in 42 per cent. of the fatal cases, and in 10 per cent. of the whole number amputated.

3. That exhaustion is the cause of death in 33 per cent. of the fatal cases, and in 8 per cent. of the whole number amputated.

4. That the following causes of death are fatal in the annexed proportions:

	Of fatal cases.	Of whole number.
Secondary hæmorrhage,	7. per cent.,	or 1.66 per cent.
Thoracic complications,	5.6 "	1.33 "
Cerebral "	3. "	.66 "
Abdominal "	1.4 "	.33 "
Renal "	3. "	.66 "
Hectic "	3. "	.66 "
Traumatic "	7. "	1.66 "

Pathological amputations.—1. That pathological are by far the most successful amputations, 12.5 per cent. proving fatal. Such amputations of the upper extremity are generally followed by success. Of the lower extremity, 15 per cent. terminate fatally.

2. That pyæmia is the chief cause of death, proving fatal in 43 per cent. of the fatal cases, and in 5.4 per cent. of all pathological amputations; and when fatal, as a rule, it causes death within fourteen days of the operation.

3. That exhaustion, either from the shock of the accident or of the operation, from hemorrhage, or all three causes combined, is the cause in 33 per cent. of the fatal cases, or 4 per cent. of all amputations.

4. That secondary hemorrhage is the fatal cause in only 9 per cent. of the fatal cases, and in 1.4 per cent. of all amputations.

5. That hectic, abdominal and thoracic complications act equally as causes of death in 13 per cent. of the fatal cases, and in 2 per cent. of all amputations.

Amputations of expediency.—1. That 30 per cent. are fatal; but as amputations of the upper extremity are, as a rule, successful, the per centage of this operation upon the lower is much increased, 40 per cent. proving fatal.

2. That pyæmia is the chief cause of death, proving fatal in 60 per cent. of the fatal cases, and in 18 per cent. of all such amputations; and when fatal, as a rule, death takes place within fourteen days of the operation.

3. That death from exhaustion occurs in but 10 per cent. of the fatal cases; and that some thoracic or renal complication, or carcinomatous infiltration, are fatal causes in the same proportion.

Primary amputations.—1. That 43 per cent. are fatal; 60 per cent. of the lower extremity, and 30 per cent. of the upper.

2. That primary amputations are more successful than secondary.

3. That pyæmia is the cause of death in 43 per cent. of the fatal cases, and in 16 per cent. of the whole number, and that, when fatal, the symptoms appear, as a rule, between the 7th and 14th days after the operation, and cause death in the third or fourth week, and not during the first two weeks, as in pathological amputations and those of expediency.

4. That exhaustion is the cause of death in 32 per cent. of the fatal cases, and in 12 per cent. of the whole number.

5. That traumatic complications prove fatal in 15 per cent. of the fatal cases, and secondary hemorrhage, cerebral or thoracic complications, about 7 per cent. each; renal disease proving a cause of death in 3.5 per cent.

Secondary amputations.—1. That 50 per cent. are fatal; 68 per cent. of the lower extremity, and 12.5 per cent. of the upper.

2. That secondary amputations are more fatal than primary, by about 8 per cent.

3. That exhaustion is the chief cause of death, proving the cause in 60 per cent. of the fatal cases.

4. That pyæmia is the cause in 25 per cent. of the fatal cases; secondary hemorrhage and hectic in the remaining 15 per cent.

Conclusions upon Pyæmia as a cause of Death.

1. That it is the cause of death in 42 per cent. of all fatal cases of amputations, and in 10 per cent. of all amputations.

2. That it is the cause of death in the different forms of amputation in the following order:

1. In 70 per cent. of all fatal amputations of expediency.
2. In 43 " " primary amputations.
3. In 43 " " pathological "
4. In 25 " " secondary "

and that in amputations of expediency it is the most frequent cause, and in secondary amputations the least.

3. That in amputations for acute suppuration of the knee-joint, whether the result of an abscess discharging into the joint or otherwise, pyæmia is a more frequent cause of death than in amputations for chronic disease.

4. That it is the general cause of death in amputations for talipes, elephantiasis, and tumors.

5. That in primary amputations, and in amputations of expediency of the leg, it is a more frequent cause of death than in the same operations upon the thigh.

6. That, upon the whole, pyæmia appears to be a more frequent cause of death in amputations through limbs, the tissues of which are in a normal condition, and where a large surface of healthy bone is exposed.

7. That in pathological amputations, and in amputations of expediency, pyæmia, as a rule, proves fatal within fourteen days; but, after traumatic amputations, the period of death is about the twenty-fifth or twenty-sixth day.

General Conclusions upon Amputations of the Thigh.

1. That 27 per cent. are fatal.

Pathological amputations,	18	per cent.
Amputations of expediency,	31	"
Primary amputations,	60	"
Secondary, "	75	"

2. That in amputations of the thigh for chronic diseases of the knee-joint, about 15 per cent. are fatal, or 1 case in 7.

3. That amputations of the thigh for acute suppuration in the joint are generally fatal; and that pyæmia is the chief cause of death in these cases.

4. That exhaustion and pyæmia are causes of death in equal proportions, or in about 40 per cent. of the fatal cases; and in 10 per cent. of all amputations of the thigh.

5. That exhaustion is most fatal in primary amputations, and the least so in amputations of expediency.

6. That pyæmia is most fatal in amputations of expediency, and the least so in primary.

7. That primary amputations are, for the most part, fatal from exhaustion; 35 per cent. of the cases sinking from this cause, 15 per cent. from pyæmia, and secondary hemorrhage and traumatic complications, 5 per cent. each.

8. That exhaustion, pyæmia and hectic are equally fatal causes in secondary amputations, proving fatal in 25 per cent. each.

Amputations of the leg.—1. That 37 per cent. are fatal.

Pathological amputations,	7.7	per cent.
Amputations of expediency,	66.6	"
Primary amputations,	62.5	"
Secondary "	66.6	"

2. That amputations of the leg are 10 per cent. more fatal than of the thigh; the amputations of expediency and traumatic amputations being more fatal, and the latter more frequent.

3. That amputations of expediency of the leg are generally fatal, being twice as fatal as those of the thigh; that pyæmia is the chief cause of death in 75 per cent. of the fatal cases, and in 50 per cent. of all such amputations.

4. That in primary amputations, pyæmia is the cause of death in half of the fatal cases, or in 32 per cent. of all such operations; exhaustion and visceral complications about 8 per cent. each.

5. That comparing primary amputations of the thigh and leg together, they are equally fatal; but that pyæmia is twice as fatal in amputations of the leg as in amputations of the thigh.

6. That half the cases of secondary amputations die from exhaustion; pyæmia and secondary hæmorrhage being fatal in 8 per cent. each.

7. That taking all amputations of the leg together, 42 per cent. of the fatal cases die from pyæmia, and 32 per cent. from exhaustion.

Amputations of the upper extremity.—1. That 10 per cent. are fatal.

2. That pathological amputations and those of expediency are, as a rule, successful.

3. That about 20 per cent. of traumatic amputations are fatal; 22 per cent. of the arm, and 16 per cent. of the forearm.

4. That one-third of these fatal cases die from pyæmia; one-third from some traumatic complication; and the remaining third from secondary hemorrhage or visceral disease.

III. *Report on the Cases of Ovariotomy that have occurred in Germany.* By GUSTAVUS SIMON.

THE statistics of ovariotomy hitherto published in Germany, have been mixed up with English and American cases; and the object of this paper is to give an account of those operations which have been performed in Germany alone. As the operation has only become at all frequent there during the last ten years, it is still possible to obtain an exact account of the great majority of the patients, both as regards the operation itself and the ultimate fate of the individual. To make this as complete as possible, not only has the author referred to all the published cases, but has opened up a correspondence with the surgeons of all the chief towns of Germany. In this way he has collected sixty-one cases, twenty-three of which have not hitherto been published; and these must embrace the greatest part of those which have occurred, although it is still possible that some may have escaped notice. All foreign operations have been rigidly excluded, even when they have been performed by Germans in adjoining countries. The results of these researches are set forth in tables extending over from twenty to thirty pages. In these he gives not only the particulars of each operation as regards the mode of execution, the presence of adhesions, and the condition of the tumor, but also narrates the history of the patient, both prior and subsequently to its performance, as also her later condition, whenever an account of this has been obtainable. Some of the cases, in spite of every care, remain defective in certain of these particulars.

The aim of the tables is to bring out as distinctly as possible the advantages or disadvantages of the operation; and the better to do this, the cases of ovariotomy have been arranged under three divisions, viz: 1st, those in which the

operation has been followed by a radical cure; 2d, those in which death has been the result; and 3d, those cases in which, although recovery has followed the operation, the advantage has proved transitory, doubtful, or non-existent. In this last category, not only have been included those operations which, begun, have had to be abandoned on account either of the firmness of adhesions or the errors of diagnosis, but others in which, although the patient has recovered from a partially or completely executed ovariotomy, yet has died eventually from after-consequences of the same, or from the effects of the original disease. Thus, a case of Martin's has been so placed, in which the patient died eight months after a successful extirpation of a colloid cyst, owing to cancerous formations in the pancreas, lymphatic glands, and the lungs, which the operator himself regarded as connected with the original malady. So also with regard to a case of Küchenmeister's, wherein ovariotomy was left incomplete on account of the firmness of the adhesions, the patient recovering from the effects of the operation, but dying in three-quarters of a year from the rupture of a secondary cyst. Operations like these cannot be set down as radical cures, but must be regarded as of only transitory utility, if of any utility at all, for the prolongation of life. Although these patients felt themselves entirely well for some time after the operation (in Martin's case for four months), it is very questionable whether they would not have lived longer still had mere palliative punctures been resorted to. Under the same category must in future be placed those cases in which, after complete recovery from the operation, death still eventually takes place, owing to the persistence or subsequent formation of abdominal fistulæ; those cases in which, very soon after the extirpation of medulla sarcoma of the ovary, cancerous formations appear in other organs; and finally, not only those cases in which secondary cysts spring up after incomplete extirpation, but also those where, after the extirpation of one diseased ovary, the cysts existing simultaneously in the other, forthwith increase and assume a similar threatening aspect. Each of these three primary divisions of the cases, derived from the issue of the operations, are formed into three subdivisions, dependent upon the nature of the operation and condition of the disease, viz: 1st, cases of ovariotomy completed; 2d, cases in which ovariotomy was attempted, but only incompletely performed or entirely abandoned on account of the strength of the adhesions; and 3d, cases in which, after the abdominal cavity had been opened, the diagnosis was found to be erroneous. This last subdivi-

sion, which does not strictly belong to the statistics of ovarian tumors, has nevertheless been retained, because, in judging of the danger of an operation, errors of diagnosis frequently cannot be avoided, and their consequences must not be lost sight of. It is not indeed likely, at the present period, that Dohlhoff's error, committed in 1838, of seeking to perform ovariotomy where no tumor of the abdomen existed, will be repeated; but it is continually happening that tumors of the uterus, retro-peritoneal tumors, etc., are confounded with ovarian tumors.

It is evident that the bearing of the statistical tables must be more exact upon German practice than those hitherto published in which English and American cases have played the chief part. In these we have only the results of the practice of German surgeons (some of the most distinguished among these), whose capability of forming the diagnosis and executing the operations can be appreciated. But it is believed that these new statistics are not only of more measurable value to the German practitioner than any that have preceded them, but may also serve even in other countries as a basis for forming a judgment concerning ovariotomy. If the tables already published comprise hundreds of cases, while these only related to sixty-one cases, yet the former were open to various important sources of error, which in these it has been sought, as far as possible, to avoid. Without referring to instances in which cases have been entered both under the names of the operator and the reporter, we may advert to two sources of error which must exert a good deal of influence on the conclusions to be drawn. The chief defect is that while cases which terminate favorably are made as public as possible, many cases having an unfortunate issue have been unrecorded. Of course it would be entirely unjustifiable for an operator to publish his successful and conceal his unsuccessful cases. But how many operators have only met with unsuccessful cases, and how many, after having published successful cases, have later met with only reverses! A great number of such cases would never be published at all; for while, on the one hand, we can scarcely blame an operator who has met with unsuccessful cases if he wait before publishing them until he has others of a more fortunate character to place by their side; so, on the other hand, ovariotomy has become so very common an operation, especially when unsuccessful, that an operator would incur the charge of tiresomeness if he published cases of failure of the operation, unless these exhibited special circumstances of great interest. How important these con-

siderations are, however, in weighing the conclusions to be drawn from published cases, may be judged by examining R. Lee's statistical account, published in the thirty-fourth volume of the Medico-Chirurgical Transactions. With all his sources of information he was only able to indicate 51 operators, who had performed 162 operations; but in a country where practitioners are numbered by thousands, in which ovariotomy has been recognized as a permissible operation for twenty or thirty years, and where it has become so common that Clay has performed it 69 and Bird 31 times, can we believe that this operation, which neither requires dexterity acquired only by long practice, nor complicated instrumental apparatus, has only been performed by 51 persons? This is quite incredible; for in Germany, where the operation still has many and important opponents, there have been 34 operators for 61 operations. A second important source of error, vitiating the early statistics, consists in the enumeration among the cures, cases in which the operation had to be abandoned either on account of the adhesions or the faulty diagnosis. Now, although these women recovered, inasmuch as the disease still remained, and the patient had incurred the great danger due to gastrotomy, these cases should be regarded not as recoveries from, but failures of, the operation. It is true that Lee has sought to avoid this error, and abstracts 60 such cases from the 162 operations; but he found it impossible to give an account of the latest condition of the cases set down as cured. These two sources of error, Dr. Simon has taken every pains to avoid; and he believes his statistics claim much more confidence than Lee's, which neither comprised all the cases that had occurred, nor sufficiently controlled those they did comprise. These statistics also show that in Germany errors of diagnosis have not been of such frequent occurrence—operations not having been undertaken with the same rashness as in England and America. While in 60 of Lee's 162 cases the operation had to be abandoned, either on account of adhesions or errors in diagnosis, this was the case in only 17 of the 61 German cases.

The following is the summary of the results, as specified in the author's detailed tables: Of the 61 patients upon whom ovariotomy was either executed or attempted, 44 ($72\frac{8}{61}$ per cent.) died from the immediate effects of the operation; in 5 ($8\frac{2}{61}$ per cent.) it proved useless, or of only transitory benefit, although the patients recovered; and only in 12 patients ($19\frac{1}{61}$ per cent.) was a radical cure obtained. (The operation may even have been more unfavorable in

Germany than here represented, as notwithstanding the search made for them other unsuccessful cases may not have been brought to light.) The operation was completely executed in 44 instances. Of these 44 there died 32 ($72\frac{8}{11}$ per cent.) from the immediate effects of the operation; one died eight months after in consequence of cancer in other organs; and 11 (25 per cent.) were radically cured. The operation was attempted in 15 cases, but on account of the firmness of the adhesions had to be abandoned or only partially performed. Of these, in one a radical cure followed, in three no advantage, or very transitory advantage, resulted, and in 11 death ensued as the immediate consequence of the operation. In two cases the operation was attempted; but the diagnosis was at fault; one of the patients died and the other recovered.

These results are far less favorable than those which have been derived from statistics previously published; and while Fock and others place the danger of ovariotomy upon the same line as herniotomy and amputation of the thigh, it is, according to the above figures, more dangerous to life than the Cæsarean section, which is, according to Kaiser, attended with a mortality of 63 per cent., and according to others, of about two-thirds of those upon whom it is performed.

In a postscript, Dr. Simon brings the cases up to 64 in number. In these a radical cure was effected in 12, in 6 the operation was at most of transitory utility, and in 46 it was followed by death.—*Scanzoni Beitrage zur Geburtskunde*, band iii, pp. 98, 142.—*Medical Times and Gazetté.*—*Med. Chir. Rev. N. A.*

IV. *On an Imperfectly-Known Function of the Pancreas, namely, Digestion of Nitrogenous Food, with Comparative Experiments on Gastric and Intestinal Digestion, followed by a few Clinical Deductions.* By L. Corvisart, M. D. (London Lancet.)

[The following important propositions, deduced from Dr. Corvisart's skillfully-conducted experiments, were sent to us, in manuscript, by the author, some time since, and we regret that very great pressure of matter prevented these valuable contributions to science being inserted before.—*Ed. L.*]

General Propositions, forming the Summary of an Essay, published with the above title, and read before the Academy of Medicine of Paris; the first part in 1857, *and the second in February* 1858.

Very little is known about the manner in which the animal or nitrogenous food is digested in the *bowel;* and science has not advanced one step since the discovery of Purkinje and Pappenheim (1836) respecting the dissolving action which the pancreatic juice may exercise on such food—a discovery which has indeed remained almost unnoticed.

The physiological and experimental investigations on the *second digestion* (intestinal digestion), of which I have given an account (in the before-mentioned essay), have led to the following important results:—These are twofold: One group, of a physiological and direct character, are deduced from actual experiments. The other, of a pathological and indirect nature, are deductions or corollaries, which, as it seems to me, throw some light on clinical medicine.

I.—*Physiological Propositions.*

1. Nitrogenous food is digested both by the stomach and the pancreas.

2. The pancreas is, as it were, a supplementary organ, whose action, after copious meals, is added to that of the stomach.

3. Both digestions are of the same nature, as any article of food subjected to either is transformed into the self-same nutrimentive product (albuminose or peptone).

4. The pancreatic juice has peculiar reactions under the influence of heat or certain agents, which reaction *the gastric juice does not present.* As this difference in the juices is found when they are both charged with peptones, after digestion, it has erroneously been supposed that the peptones also differed. This pardonable error, being pointed out, will hardly again be fallen into.

5. When an article of nitrogenous food, or a portion of it, has undergone a thorough gastric digestion, the pancreatic juice no longer acts upon it, and does not transform it into another peptone.

6. The pancreatic juice is intended to act upon that part of albuminoid substances which has left the stomach before being transformed into albuminose.

7. The amount of action of the pancreas may, in certain cases, be equal to that of the stomach.

8. If the mere quantity of secreted fluid were alone taken into account, the stomach might be looked upon as the more powerful, for the gastric juice is ten times more abundant than the pancreatic juice; but the latter is, to make up the difference, ten times richer in ferment (pancreatine).

9. The gastric juice has the advantage of a prolonged contact and stirring with the food; but the pancreatic juice has, on the other hand, the faculty of acting upon azotized aliments equally well, either in an alkaline, neutral, or acid state; it also acts three times quicker than the gastric juice.

10. Every thing is so disposed in the duodenum, that the pancreatic juice acts immediately it comes in contact with the food; and every thing is so arranged in the stomach that a large part of the food is transformed into peptone, the remaining part being, at the very least, so prepared, as rapidly to undergo the pancreatic digestion.

11. This preparation, which varies according to the quality and quantity either of the food or the gastric juice, &c. consists sometimes in a simple imbibition, sometimes in a dissevering or an extreme division, and sometimes in a solution. Pancreatic digestion, being forcibly very rapid, is usefully assisted by this preparation, the stomach acting respecting the pancreas in the same manner as the teeth do respecting gastric digestion.

12. It is, however, to be noticed that the pancreatic juice is able to accomplish, unassisted, the digestion of food which has not been subjected to that gastric preparation or division, in the same way as the gastric juice can digest food without extraneous help. Hence, pieces of albuminoid substances, being *directly* placed into the intestine in a raw state —that is to say, without any preparation—are perfectly and completely digested, the process being, however, somewhat slow. The pancreatic juice can, by its own unassisted energy, carry on the digestion of nitrogenous food, without requiring the adjunction either of the intestinal juice or the bile, to gain digestive properties. The digestion of azotized food, performed in glass jars over the water bath, by means of the pancreatic juice or isolated pancreatine, goes on in the same manner as in the duodenum.

13. When the gastric and pancreatic juices are separated, and act in succession, each performs its function completely, and the quantity of albuminose produced may thus be doubled.

14. But it is a remarkable fact, that when these two digestive ferments meet in a state of purity, the two digestions are no longer freely carried on. The mixture, far from doubling the produce, may reduce it to naught, for pepsine and pancreatine destroy each other under these non-physiological circumstances.

15. Nature, in the normal state, prevents this conflict, by three distinct means—1stly, by the pylorus, which separates the two ferments; 2dly, by the very gastric digestion through which pepsine exhausts and abolishes itself in the formation of peptone; 3dly, by the bile, which destroys the activity of the gastric ferment, as has been shown by Pappenheim.

16. Bile does not precipitate the peptone produced by the influence of the stomach so as to destroy digestion and necessitate its being again begun. On the contrary, the bile itself is precipitated by the acid of the gastric juice or of the chyme.

17. The nature of the nitrogenous food has much to do with the quantity of peptone which the two successive digestions can produce for the requirements of the economy. I have thus found in my experiments, that whilst musculine and caseine yielded almost one ounce of perfect peptone, albumen, or gelatigenous textures, though given in the same quantity, yielded hardly half an ounce.

18. At the outset, gastric or pancreatic digestion destroys the most characteristic properties of the various albuminoid substances. It liquefies insoluble ones, deprives albumen of its coagulability, and caseine of its property of coagulating by rennet. It also deprives gelatine of its property of turning into jelly, and musculine of being precipitated by chloride of sodium, &c. In short, it transforms all the substances into albuminose and peptone.

The different kinds of albuminose, although their individual reactions are much less marked than those of the albuminoid substances whence they are derived, have, nevertheless, distinct characters.

19. The nature of peptones varies as the nitrogenous substances from which they are derived. This variety satisfies the different (plastic?) requirements of the economy.

20. The peptones which are most alike and most difficult to distinguish from each other, are, the albumen-peptone, musculine-peptone, and, strange to say, gelatine-peptone; just as if the articles of food from which these peptones are derived were less different from each other than is generally supposed. Fibrine-peptone and caseine-peptone are more easily distinguished from each other, and from the substances

above named. From the slight differences existing between azotized articles of food, or peptones, there arises a kind of unstable equilibrium, favorable to the work of assimilation performed by the tissues of the body.

21. The generic character of peptones is, that they are always soluble in water, be the latter acid, neutral, or alkaline, which circumstance secures an easy circulation in the organism. Heat does not coagulate peptones, and hardly any of them are precipitated by acetate of lead. Besides, they resist insoluble metallic combinations a great deal better than nitrogenous articles of food.

22. Peptones form a genus, as well defined as the albuminoid genus. It is, however, evident, that by the progress of science, their nature will eventually be more exactly determined than can be done at the present period.

23. Some physiologists persist in the erroneous belief that the stomach merely swells or divides the food without dissolving it. How can they, however, withstand the testimony of the scales, which plainly show that, even where the weight of the food is considerable, every albuminoid article of food subjected to the action of the stomach is not merely divided, but dissolved, passes through the filter, and is absorbed by the membranes!

24. Others have maintained that the gastric juice, acting on nitrogenous food, produces only gelatine. They, however, lose sight of the fact, that the characters which place gelatine in a peculiar albuminoid class, have never been discovered in the chyme after a digestion of fibrine, caseine, musculine, or albumine, even when the chyme was neutralized; and that, moreover, gelatine itself completely loses its specific characters, in consequence of undergoing digestion in the gastric juice.

25. Others, finally, resting on the hypothesis, that the albumen of the blood is nothing but the digested matters themselves, maintain, that the peptones are reduced to albumen, by losing their acidity—viz: by being neutralized. Such an error can hardly exist, except albumen and fibrine be alone taken into account, excluding all other aliments; as an incomplete digestion of the albumen and fibrine may lead to confusion. Crude albumen, in fact, always partly escapes gastric digestion; ill-digested fibrine is transformed into albumen only (caseiform); these two cases excepted, if experiments be made on the produce of concrete and washed albumen, of caseine, musculine, or gelatine, regularly digested by the stomach, no doubt can any longer be entertained. These gastric peptones never contain any albumen.

26. The peptones, either received or produced by the pancreatic juice, do not, any more than the latter, form any new albumen, and, whether they be primarily or consecutively acid, alkaline or neutral, do not increase by an appreciable weight the coagulable albumen which the pancreatic juice, pure and without peptone, *normally contains.*

27. During the three hours which follow a meal (when digestive solution, transformation, and absorption are not much advanced), the blood of the vena portæ (compared to the venous blood generally) does not become charged with a noticeable quantity of nitrogenous matter through digestive absorption; whilst on the other hand, the elements of the blood, globules and fibrine, become changed into albumen (caseiform) by a commencement of digestion, either in the intestine or the water bath, under the influence of the alkaline pancreatic juice.

28. Now, if it be considered that, during the first three hours of digestion—1stly, the pancreatic juice poured into the duodenum remains therein in a pure and active state; 2ndly, that this juice can pass into the vena portæ (for absorption by the mesenteric veins is not suspended); 3rdly, that this same juice can act in such an alkaline medium as the blood. If, moreover, it be considered that during those very three hours, a large portion of the globules and fibrine of the blood of the vena portæ is, weights remaining equal, transformed in that vein into albumen (which is a commencement of transformation similar to that which they would have undergone in the intestine under the influence of this same pancreatic juice), we can hardly refuse our assent to the hypothesis of *a true intra-venous digestion*, which hypothesis I confidently put forward.

29. No actually differential character has ever been pointed out between the nitrogenous matters which go by the name of extractive, and the albuminose, which is generated by gastric or pancreatic digestion. Now, it should be noticed that the lacteals, *the vena portæ, and the hepatic veins which are its continuation*, or in other words, the vessels which most directly receive the product of digestion,—are by far richer in extractive matter (albuminose) than the rest of the blood. It may, moreover, be noted that they are also richer in glucose.

30. The nutritive richness of the hepatic vessels (albuminose and glucose being contained in them) may be explained by the gastro-intestinal absorption, to which is energetically added prolonged intra-venous digestion, although the liver has no share in the process.

II.—*Corollaries, vel Pathological Deductions.*

A. We may take it as almost certain that there exists (as regards albuminoid aliments) a duodenal dyspepsia, caused by the vitiation, insufficiency, or absence of the pancreatic juice, the symptoms of which appear only from the second or third hour of digestion, with a deeper-seated pain than is felt in gastric dyspepsia. (See Propositions 1, 2, 3, 6, 7.) The internal use of pancreatine is indicated* in cases of pancreatic duodenal dyspepsia.

B. Secondary duodenal dyspepsia may be the result of an almost total absence of that kind of division which food, under the least favorable circumstances, undergoes by means of the gastric juice before that food has been transformed into peptone. Pancreatic digestion is then slower, just as gastric digestion is slower when the teeth have not duly performed their functions. This secondary pancreatic dyspepsia may be cured by the treatment suited to the primary gastric dyspepsia.

C. Another secondary duodenal dyspepsia may arise, either from an excess of gastric juice, or from a patency of the pylorus; for in these two individual cases the gastric juice reaches the duodenum in unfortunately retaining all its active properties, which latter are prejudicial to the action of the pancreatic juice. (See Propositions 13, 14, 15 and 16.)

D. A third duodenal dyspepsia may arise from deficient biliary secretion, this deficiency being followed by the same unpleasant effects as are noticed in the two preceding cases, on account of the non-destruction of the activity of the gastric juice in the duodenum.

E. A peculiar kind of dyspepsia, which might be called of the portal vein, or hepatic, may arise from the vitiation of the intra-venous digestion.

F. Certain symptoms of dyspepsia, gastralgia, enteralgia, or hepetalgia, may erroneously be attributed to the stomach, the intestine, or the liver; these symptoms may simply be

*Last year Dr. Corvisart made some clinical experiments on the therapeutic use of pure pancreatine. The difficulties he met with are recorded in the Gazette Hebdomadaire of Paris, May 1857, p. 321, 322. Dr. G. Harley, who read a paper on digestion (just twelve months after the above date) at the meeting of the British association for the advancement of science, seems never to have heard of Dr. Corvisart's article on the subject. Dr. Harley maintains, in opposition to the latter physician's statements, that in the administration of duodenal ferment, it is not necessary to imitate nature, who prevents pancreatine from passing into the stomach. For the causes of the difficulties met with by Dr. Corvisart, and the means to overcome them, see Propositions 13, 14 and 15, *paragraphs* C and D of the summary, and page 51 of the Essay.

the result of the absorption of a too abundant, too active, or too irritating pancreatic juice by the vena portæ.

G. Bile, when it reaches the stomach, destroys the activity of the gastric juice within that organ, whether it penetrates the cavity pathologically through the pylorus or by the mouth and cardia. The knowledge of this fact may lead to the employment of bile to counteract the morbid superabundance of the gastric juice.

H. The economy is supplied with a variable weight of peptone, though the weight of different kinds of nitrogenous articles of food and digestive force remain the same, the weight of the peptones varying according to the kind of nitrogenous food. It is a great error in hygienics to esteem the trophic, or nourishing power of a nitrogenous article of food, simply by the amount of nitrogen it contains. The trophic, or alimentary standard of food, is not so easily fixed.

I. When it is more urgent to allay pain and irritation about the digestive organs than to restore muscular energy, the food should consist of that kind of aliment which is most quickly and completely dissolved, whatever be the amount of peptone it yields.

J. But when it is more important rapidly to restore muscular force than to allay gastro-intestinal pain, we should, on the contrary, give such food which, the digestive force being the same, yields the greatest weight of peptone, though that food be likely to dissolve and digest slowly. (See Proposition 17.)

K. He who digests with one organ only (stomach or pancreas), is thereby put on half allowance as regards peptone; and he who eats only albumen or gelatinous tissue (instead of caseine or musculine, which yields double as much peptone), is also put upon half allowance; and with a normal and equal digestive force, is only half nourished. (See Proposition 17.)

In the two preceding cases, an over-activity either of the one organ (first case), or of both organs (second case), may occur, and extract from the food the full allowance of peptone. But we must not long trust this extreme functional exertion; for any persisting over-activity must sooner or later end in exhaustion.

L. We should not give for a long time one kind only of nitrogenous food, not only because one kind of azotized aliment is not capable of repairing the waste of the organism, but also because the same article of food given exclusively and continuously (for a week for instance), no longer excites

gastric secretion, and no longer fully undergoes the digestive transformation.

M. Most of the peptones upon which I have made experiments, have the peculiarity of not being precipitated by neutral acetate of lead. Now, in all cases where the albuminoid matters of the urine happen to be of the albuminose kind, they remain in solution, in spite of the acetate of lead used to precipitate them. They therefore mask the sugar more effectually than all other ingredients of the urine, when the potash and copper test is employed. The presence of sugar may thus be overlooked when it really exists in the urine.

V. *New Experiments on the Transmission of Sensitive Impressions in the Spinal Cord.* By Dr. E. Brown-Sequard of Paris. Translated from Brown-Sequard's Journal of Physiology. By A. Peniston, M. D. (*New Orleans Medical Journal.*)

The author proposes to establish in the present memoir the following facts relative to the functions of the spinal cord:

1st. That the posterior columns do not transmit any sensitive impressions to the brain, but that the central gray matter is specially charged with this function.

2d. That the organs which conduct sensitive impressions from the extremities and trunk, cross each other and decussate in the spinal cord, and not in the brain, as was commonly supposed.

On a three months' old rabbit, the spinal cord was exposed in the whole lumbar region, carefully avoiding, at the same time, wounding the large vessels; the wound is then covered over and the animal allowed to rest during one or two hours. After this period of repose, all the anterior roots of the nerves distributed to the inferior extremities were cut, together with all the lumbar nerves, and the animal is allowed to rest during an hour or two. It was then found that sensation in the inferior extremities was much more acute than in the normal state. It is scarcely necessary to add that all motion, whether reflex, voluntary, or even convulsive, was entirely destroyed in the inferior extremities, so that hyperesthesia was here evidently independent of other sources which could excite spasmodic contractions in a muscle.

After having satisfactorily ascertained that the posterior extremities have thus manifestly an increased amount of sensibility, the lateral half of the spinal cord was then cut through, in such a way as to divide the anterior column, together with the antero-lateral and posterior columns of one side, and the corresponding half of the gray substance, the section being made on a level with the first lumbar vertebræ. If the section be made on the right side, it will then be found that the inferior limb on the right side has again increased in sensibility, but the inferior limb on the left side has lost all sensibility, so that neither pinching, nor pricking, nor cutting, nor even cauterization, nor galvanism seem to excite the least sensation of pain in the animal. Sometimes, on pinching either the sciatic or crural nerve on the left side, some manifestation of pain may be found, but when the spinal cord was afterwards examined after maceration in alcohol, it was ascertained that a small portion of the right side of the spinal cord was not completely divided. On the other hand, sensation was evidently exaggerated in the right inferior extremity, and the slightest pressure on any part of the limb caused the animal to manifest symptoms of pain. The various causes of pain, such as pinching, pricking, burning, electricity, etc., act also with much greater intensity than they are usually found to do upon the same species of animal in the normal condition.

Having thus ascertained that sensibility had increased in the posterior limb on the right side, that is to say, on the same side in which the half section of the cord was made, and that the left side, on the contrary, had lost all sensibility, the experiment was further continued by cutting the nerves of the brachial and cervical plexuses, so as to prevent any motion, whether reflex or otherwise, in the anterior extremities, from having any share in the production of pain when the right inferior extremity was irritated. After this operation it was ascertained that hyperesthesia still existed in the limb; it had, however, somewhat diminished, though sensibility still existed there more acute than normal, and also over the integument of the thorax.

It is evident from this experiment, that pain could not be attributed to any contraction which might have taken place in any limb, since they were all equally paralyzed, and therefore motionless. This settles beyond dispute the point that the evidences of pain on irritating, for instance, the inferior extremity of the right side, after dividing the half of the spinal cord on the same side, are not caused by reflex movements which may take place in any of the other limbs

of the animal. The section of the lateral half of the spinal cord gives a most excellent means of establishing an opinion which we put forth more than ten years ago, viz: that the conducting fibres of the spinal cord, decussate, in the cord itself, and not in the brain, as has been commonly believed since the time of Galen. For other proofs on this subject, see the January, July and October numbers of Brown-Sequard's Journal, 1858. Pathological proofs to the same effect will be found in our book entitled "Lectures on the Physiol. and Pathology of the Central Nervous System. Philadelphia. 1859."

The experiment above cited throws a great deal of light on other questions relative to the transmission of sensitive impressions, and demonstrates clearly that the posterior columns do not transmit impressions to the brain. For in this experiment the posterior column on the left side was not at all damaged, and yet sensibility was destroyed in the left pelvic extremity; on the contrary, the posterior column of the right side was severed, and yet we see that the right pelvic extremity is more sensitive than in the normal condition. It appears, therefore, that the transmission of impressions does not take place through the posterior columns. Nevertheless, it may be said, that since the fibres which conduct these impressions cross each other in the spinal cord, it is natural that the results which we have given above should be found on experiment, admitting, however, that the posterior columns are made up of fibres which conduct sensitive impressions. But among other arguments against this supposition, is this peremptory one, that the posterior columns do not decussate with each other. It is a well known fact that they do not communicate with each other directly, and if their fibres cross each other at all in the cord, it must be through the gray matter of the cord. So that there can be no doubt that the fibres from the sensitive nerves do not reach the brain along the posterior columns. We have referred so far to sensations of pain, and not to the other kinds of sensitive impressions. It is exceedingly difficult to make a distinction in an animal between the perception of touch and the sensation of tickling, or the impressions which depend upon muscular contractions. Nevertheless, with certain precautions, as for instance, only acting upon the animal when it is perfectly calm, and with its eyes covered so that it cannot see what is done, and can only know it by feeling it, avoiding at the same time to shake the body of the animal, then it will be seen whether any slight contact, such as *that of* a feather, or a feeble application of electricity, pro*duces* any sensation or not.

Mr. Schiff has recently expressed the opinion that the gray substance of the spinal cord is the medium by which impressions of pain are transmitted, whereas the posterior columns conduct the sensations of touch. We have long admitted that the various sensitive impressions are distinct from each other, and have shown in a course of lectures delivered at the college of surgeons in London, that the destruction of certain parts of the gray substance of the cord causes paralysis only of one of the various kinds of sensibility, whereas the destruction of the posterior columns does not destroy either tactile or any other kind of sensibility. We shall not relate in this place the pathological observations by which we have arrived at these conclusions; we have simply desired to call attention to the phenomena presented by those animals in which reflex phenomena are prevented by cutting the cervical plexus and all the anterior roots which originate from the spinal marrow. It is evident that if tactile impressions were only transmitted to the brain by the posterior columns, those impressions could no longer be transmitted on an animal prepared in the way above described, if the lateral half of the spinal cord be cut above the origin of the nerves distributed to this limb; and that on the contrary the tactile impressions from the other posterior extremity should continue to be transmitted.

Now the reverse is precisely the case, and the impressions of touch, tickling, scratching, probably also of heat and cold, together with the impressions of pain, are transmitted from the posterior extremity on the same side on which the half section of the cord was made, but not from the opposite side.

If instead of cutting the lateral half of the spinal cord, the two posterior columns be divided, then it will be found that tactile as well as the other kinds of sensibility, still persist in the limbs below the section. On the contrary, if in the dorsal region, all of the spinal cord be divided, with the exception of the posterior columns, then we find that the posterior limbs lose all tactile and other kinds of sensibility whatsoever.

This opinion of Mr. Schiff's is therefore not better founded on fact than the previous one which he has abandoned, viz: that the posterior columns transmitted sensitive impressions, and that the gray matter was incapable of this function.

We need not add, that these recent experiments are also entirely opposed to the theory which is still advocated by Mr. Longet.

We propose soon to speak of the ideas put forth by Mr.

Jacubowitsch, on the structure and functions of various parts of the spinal cord, and we shall demonstrate that this anatomist was mistaken in asserting that the posterior cornua of gray matter are the only means of transmission of sensitive impressions. We propose to show that a section of these cornua, and of the posterior white columns, instead of destroying sensibility in those parts situated below the section, is on the contrary followed by hyperesthesia, and more exaggerated than when the posterior columns alone have been divided.

CHRONICLE OF MEDICAL SCIENCE.

MATERIA MEDICA AND PHARMACY.

1. *New Modes of Administering Iodine.*

Efforts have lately been made in France to administer iodine in a more efficacious manner than had hitherto been done. M. Leriche of Lyons has published valuable articles in L'Union Médicale, wherein he endeavors to show that iodine, combined with vegetable substances, advantageously replaces cod liver oil. He proposes a syrup made of the juice of water cress and iodine, and also an iodine wine. The syrup has the advantage of not fermenting, and contains exactly one grain of iodine per ounce. The wine is composed thus: Bordeaux wine, eight ounces; concentrated infusion of red roses, about thirteen drachms; tincture of iodine, one drachm and a half. Each ounce contains one grain of iodine. From one to six tablespoonfuls may be given daily, according to the indications and the age of patients. In the space of three years M. Leriche treated thirty-eight scrofulous patients with the wine; twenty-one were perfectly cured, after a treatment steadily pursued for some time; eight did not improve at all; and nine improved but slightly, either because the treatment was carried on imperfectly, or because it was left off too soon.

M. Boinet, on the other hand, well known by long conti-

nued investigations respecting the use of iodine, read on the 28th of September last, before the Academy of medicine of Paris, a paper, in which he proposes to use iodine as an article of food. The author administers iodine as found in nature, viz: combined with those plants which contain the greatest quantity of the alkaloid. The latter being thus given in minute doses, in a continuous and almost imperceptible manner, yields most advantageous results. M. Boinet uses fuci, marine plants, cruciferæ, salts containing iodine, and some mineral waters holding iodine in solution. His excipients are ordinary bread, ginger bread, cakes, biscuits, chocolate, wine, beer, syrup, etc., some being especially calculated for children. Trials were begun by M. Boinet as far back as 1849, upon subjects suffering very severely from the various well known scrofulous symptoms, and most of them were cured, after continuing the iodized food for several months. The author has not found that iodine administered for a long time produced a loss of flesh and atrophy of certain organs. Far from having these effects, the iodine in his hands has invigorated patients, and favored the development of organs. Messrs. Chatin and Trousseau are to report upon the paper.—*American Journal of Med. Sciences.*

2. *On the Vermifuge Properties of Ailanthus Glandulosa, of China.*

This tree, so well known in the United States as a shade tree, and recently so much decried, owing to the strong peculiar odor of its flowers, is the subject of a notice in the Journal de Pharmacie for March, by Prof. Hetet of the Ecole de Médicine of Toulon. This tree, which belongs to the natural family Xanthoxyleæ, and allied to the genus Rhus, is also identical or closely related to the Japanese varnish tree, and within a few months has acquired more importance, in view of its leaves being used as food for a species of silk worm, bombyx cynthia, which has recently been introduced into France.

If a piece of the bark of ailanthus is chewed, it gives a decided bitter taste, and soon after a general unpleasant feeling, accompanied by nausea and prostration, similar to that derived from tobacco by novices, or from henbane. These physiological effects seem to have given rise to the term caco dendron (Ehrh.) formerly given to the tree.

These qualities induced the author to enter on an investigation of its effects on animals, and to analyze it; but he afterwards ascertained that M. Payen, Annals de Chimie,

t. xxvi, p. 239, had already given an analysis—in which it appears to contain lignin, chlorophylle, yellow coloring matter, pectin, bitter substance, aromatic resin, traces of volatile oil, nitrogenous matter, and some salts.

The powdered bark has a greenish yellow color, and when recent, has a strong virous odor and very bitter taste. The coloring matter is not valuable as a dye. The pectin is very abundant. By treatment with alcohol, the resin, volatile oil and bitter principles are dissolved, and on evaporation, a soft, oleo resinous extract, strongly odorous, is obtained.

M. Hetet has experimented therapeutically and physiologically with the powder, aqueous alcoholic extracts, and oleo resin on dogs. All have proved successful—that is to say, in all cases they have produced abundant stools, with the expulsion of tænia.

The powdered bark was given in doses of 8 grains; the aqueous extract, in doses of four grains, and the oleo resin in three grains. The pure resin proved purgative in six grain doses, but did not expel worms. The author attributes the prostrating effects of the bark to the volatile oil, as the resin did not produce them. The effects of this oil is so decided that an assistant charged with evaporating the extracts has been seized with vertigo, cold sweats, and vomiting every time he neglected the precautions adopted to avoid the vapors; and the author himself had experienced them to some extent, from similar emanations, and he also had observed the effects of the extract on a dog, accidentally taken.

Being satisfied of the emetico-cathartic and anthelmintic power of the ailanthus, the author sought to verify it in practice, and gives several cases in point.

1st. F——, a laborer in the arsenal, having sharp pain in his left side, stomach and abdomen, was examined in reference to the debris of tænia, and evidence of their existence noticed. The usual vermifuges, such as pomegranate bark, castor oil, etc., did not relieve him. The powder of ailanthus having been prescribed at the instance of the author, soon expelled several fragments, and another dose of a gramme (15½ grains) relieved the patient of the worm, four and a half yards in length, including the head.

Returning to the hospital ten weeks after for another affection, he states on enquiry that it had not returned since.

2d. The Abbe L——, having noticed portions of tape worm, came to the hospital, and under treatment, considerable portions of the worm were expelled, but he became *impatient*, and left before he was cured.

3d. L——, aged 49, a cooper by profession, had long

suffered from the tape worm, and exhausted the nostrums of charletans. He took the powder of ailanthus, alternately with castor oil and glauber salts, during several days, the dose varying from 12 to 30 grains. After 15 days' treatment, the patient passed a complete worm 5½ metres (18 feet) long.

The author believes that the ailanthus has also febrifuge properties, and that its administration is entirely safe.

Am. Journal of Pharmacy.

3. *The Carapa Touloucouna.*

Carapa touloucouna is the name of a tropical tree growing in Guiana, the bark of which has recently been investigated by M. E. Caventou (Journ. de Pharm. Mar. 1859). This beautiful tree attains the height of 70 to 80 feet, and from three to five feet in diameter. It belongs to the natural family meliaceæ. Its bark is in pieces from 6 to 10 inches long, 1½ to 3 inches wide, and about 4 lines thick. Its external surface is deep gray, rugose; the epiderm is removed in places, so as to show a reddish surface; on some specimens white lichinoid plates occur. The intermediate surface is yellowish, and perfectly smooth. When chewed it is bitter, and the author supposed it contained a febrifuge alkaloid, but he proved to be mistaken. The following is the result of his analysis:—1st, touloucounin; 2d, soluble red coloring matter; 4th, yellow coloring matter; 5th, green fatty matter, besides gum, wax, traces of starch and lignin. Touloucounin is a bitter resinous substance, does not crystallize, has a slight acid reaction, insoluble in ether, soluble in alcohol and chloroform, and but slightly soluble in water, requiring 1400 parts of this solvent. Its ultimate composition is C^{20} H^{14} O^{8}.

M. Caventou has suggested several pharmaceutic formula, which are probably premature, in view of the fact that it has not been used sufficiently to develope its therapeutic properties.—*Ibid.*

4. *Ethereal Oil of Horse Chestnuts* (Marron d'Inde).

M. Genevoix (Bulletin de Therapeutique) states that the ethereal oil of horse chestnuts has been employed recently as a topical agent in the early stages of gout and rheumatism.

It is prepared, by percolating the feculent matter of the

kernel of this seed with ether, which removes fixed oil, and by evaporation, yields it ready for use. Ten kilogrammes of the chestnuts (21 pounds) yielded but ten grammes (2½ drachms) of the oil. This oil is applied to the part by means of a camel's hair pencil, several times over if the pain is severe, and the part then covered with wax paper, wadding, or flannel, and the patient kept quiet. The dressing may be renewed two or three times a day.—*Ibid.*

5. *Two Cases of Death by Chloroform.*

Two deaths have occurred from chloroform in the hospitals of Paris, in the hands of two surgeons not less eminent for their knowledge than for their prudence, and the precautions they are accustomed to employ in the administration of this agent.

The first case was a man, aged 44, strong and vigorous. It was proposed to reduce a luxation of the shoulder. From 15 to 20 grammes of the anæsthetic were employed. The chloroformization followed its usual course; first excitation, then relaxation. The pulse continued calm, as well as the breathing; the expression of countenance was not changed; nothing indicated an unfavorable result. Relaxation having been obtained, Richet proceeded with the reduction, having removed the chloroform from the patient. Suddenly, the reduction being accomplished, the pulse ceased on both sides; there were no longer precordial palpitations, although the respiration continued. This soon ceased; then Richet used artificial respiration. Three inspirations were obtained, but the patient succumbed, without any movements of the heart being re-established.

The second case was a girl, aged 7½ years, in the service of M. Marjolin. Four grammes of chloroform were employed. It was employed, as in the preceding case, in a bloodless operation—that for coxalgia (Bonnet's treatment). The child submitted readily to the inhalations. The first attempt was followed by cries from the child, who endeavored to place its free hand on the diseased hip. In a few seconds the anæsthetic sleep and relaxation were produced, although the anæsthesia was not profound, since but few manipulations had been made when the cries and agitation were re-established. The surgeon ceased his operations, and suddenly the cries and muscular resistance ceased. Instinctively, and as if from a sad presentiment, Marjolin looked at the *child.* The physiognomy was strange; the head was turned

towards the bolster; the countenance more highly colored than a few moments before; eyes fixed, and half closed. The pulse and heart being examined, no pulsations were perceived; three or four inspirations, becoming weaker and weaker, then took place; all relief proved useless; death was certain.

In these two cases the pulse and the heart ceased to furnish palpitations, although the respiration continued. There was no asphyxia, but a contrary effect in each case. In both, the countenance, at the moment of death, preserved its color; and hence, death did not take place from syncope. How then did the chloroform act? Was it by direct action on the heart and lungs, which were as if paralyzed by it? These questions have not as yet been settled.—*Journ. de Pharm.—Am. Med. Monthly.*

6. *Modus Operandi of Chloroform.*

Dr. F. Piossek read before the Physiological society of Greisswald, an account of experiments with chloroform, made under the direction of Prof. Hunefeld, which seem to establish the following conclusions as to the modus operandi of chloroform, beyond a doubt:

Chloroform produces anæthesia by abstracting from the blood some of the oxygen necessary to the continuance of the organic processes, thus causing impaired nutrition of the central organs and nerves; hence the insensibility of the sensatory, and the relaxation of the motory nerves.

The oxygen of the blood probably combines with the carbon (liberated by the decomposition of the chloroform) to form carbonic acid, while the chlorine and water of the chloroform probably form hydrochloric acid, &c. Into what combinations this hydrochloric acid may then enter with the ingredients of the blood, is as yet unknown.

The other anæsthetics, ether, amylene, &c., act similarly, and their modus operandi may be compared to the narcotizing or asphyxiating action of carbonic acid on nitrous oxide.

MEDICAL PATHOLOGY AND THERAPEUTICS.

1. *Observations on the Changes of the Urine in Disease.* By Dr. BRATTLER.

Dr. Brattler has made a series of very accurate investigations on the changes of the urine in typhus, morbilli, scarlatina, diseases of the heart, etc., which he laid down in an elaborate treatise, entitled "Beitrag zur Urologie in Kranken Zustande;" München, 1858, Joh. Palm's Hofbuchhandlung.

The author gives the following summary of his urological observations:

Casting a retrospective glance upon our investigations and experiments, we find that the urine does not suffer in disease any changes peculiar to the different morbid conditions, but that these changes are in relation with definite processes going on in the organism. The urine of a case of typhus, pneumonia, cholera, or Bright's disease, may have one and the same qualities, for the very reason that certain processes, which modify the secretion of urine, may take place in any of these diseases.

The quantity of urine.—It is diminished: In the commencement of nearly all febrile diseases; in diseases of the kidneys, when the uriniferous tubules are obstructed (morbus Brightii).

In diseases in which the organism suffers great losses of serum, as excessive diarrhœa, cholera, copious perspiration.

In diseases of the circulatory and respiratory organs, in consequence of which less blood is furnished to the aortic system, and therefore to the kidneys, as disease of the heart, and pleuritic exudation.

It is augmented: By the resorption of hydropic effusions and exudations.

In polydypsia, diabetes insipidus.

Urea.—It is diminished: In the reconvalescence from all acute diseases, in which the organism has suffered a considerable loss of substance through fever, as in this case the nourishment carried into the system is used for the reparation of the lost nitrogenous tissues.

In diseases of the digestive organs which hinder the resorption of the ingesta, as chronic vomiting in atrophy after typhus, and cancer of the stomach.

In diseases of the kidneys, interfering with their functions (morbus Brightii).

In diseases of the circulatory and respiratory organs, in consequence of which less blood is furnished to the aortic system, and therefore to the kidneys.

It is augmented: In all diseases accompanied by fever, viz: by elevation of temperature. (The frequency of the pulse bears no constant relation to the secretion of urea.) The secretion of urea is the greater the higher the temperature rises.

An exception takes place only when in febrile diseases the function of the kidneys is at the same time interfered with, be it by disease of these organs themselves, or secondarily by the influence of other organs.

In diseases in which the urea has been retained for a long time in the blood by functional disorder of the kidneys, after removal of the difficulty, as morbus Brightii, cholera, and disease of the heart.

By the resorption of hydropic effusions, as morbus Brightii, and dropsy from disease of the heart.

Chlorides.—They are diminished:

In all diseases in which exudations or transudations take place, these effusions being rich in chlorides, as typhus, pneumonia, pleuritis, Bright's disease, cholera, acute rheumatism, etc.

In diseases of the digestive organs which hinder the resorption of the ingesta.

In diseases or functional disorders of the kidneys with diminished urinary secretion, as Bright's disease, and disease of the heart.

They are augmented: By the resorption of hydropic effusions.

Phosphoric acid.—It is diminished:

In diseases or functional disorders of the kidneys with diminished urinary secretion, as Bright's disease, and disease of the heart.

In diseases of the digestive organs which hinder the resorption of the ingesta.

It is augmented: In acute febrile diseases by the increased metamorphosis of tissues containing phosphorus.

The increase of phosphoric acid is, however, not as constant as that of urea. In diseases in which the phosphoric acid has been retained for a long time in the blood by functional disorder of the kidneys, after removal of the difficulty, as Bright's disease, and cholera.

According to Bence Jones, in acute nervous diseases, and in osteomalacia.—*Medicinische Central Zeitung.*

2. *New Hygrometric Theory of Cholera.*

The meteorological relations of the cholera epidemic were for the first time carefully studied in this country during the last visitation. It cannot be said that the results were very conclusive in any one direction, or that any theory of disease in relation to climatal disease has been eliminated from the investigations then made; but the council of the British meteorological society, in their last report, while recording their sense of the incompleteness of these and other collected observations for any medical theories, undertake to continue their labors, and express a strong hope of useful deductions.

M. de Ruolz, well known for important discoveries in the art of electro-gilding, has been content to argue from a narrower basis, and has lately communicated to the Cercle de la Presse Scientifique of Paris an interesting series of facts regarding the proportion of moisture contained in the atmosphere during the prevalence of cholera. By analyzing the various statistical data collected during the French epidemics of 1832, 1849 and 1854, M. de Ruolz has deduced the following facts: In 1832 the epidemic in Paris reached its height in April, when the hygrometer was lowest: it declined to the utmost in September, when the hygrometer was highest. In 1849 the hygrometrical observations at the observatory of Paris had been unaccountably neglected; but 1854 afforded results quite in accordance with those of 1832. Hence, M. de Ruolz infers that there undoubtedly exists a positive coincidence between the intensity of the epidemic and the hygrometrical state of the atmosphere, the former being in the inverse ratio of the humidity of air. Other circumstances he considers to point to the same conclusion: thus, Lyons, a city remarkable for its damp atmosphere, owing to the two rivers which embrace it, has never been visited by cholera. Amongst washerwomen, who live in a damp medium, he says the cholera has always been very low, and he makes the same assertion with reference to "persons living in damp places, on the banks of rivers, &c." Finally, M. de Ruolz tells us that during the last choleraic invasion in London, the copious watering of the streets was found very beneficial. The views thus enunciated in the Cercle Scientifique did not remain wholly unopposed. Thus, it was remarked that sailors were very subject to cholera; that cholera made great havoc in Holland, where the air is notoriously moist; and that in certain localities the cholera has been known to lay waste one bank of a river and to spare the other. M. de Ruolz, however, pressed for further inves-

tigation, and suggested that, by way of experiment, in any future epidemic the streets should be well watered, and the fire engines should play on the roofs of the houses in the infected quarter. It were idle to smile at his singular expedient, if indeed it were probable that any useful result could flow from it. And there is no valid reason why Mr. Braidwood should not brigade his force against an epidemic, or why cholera should not be attacked with the fire engine as well as with the lime pail and the brush of the whitewasher—a favorite panacea with metropolitan vestries—or by the artificial creation of ozone and the introduction of certain ozonified breezes, as more subtle chemists have recently suggested. But we have the strongest doubts whether M. de Ruolz's theory will "hold water." The experience of Lambeth, of Wandsworth, and of other humid districts close to the river side, has certainly not offered confirmatory facts; and though unacquainted with the actual statistics of deaths from cholera amongst London washerwomen, we are in possession of a number of isolated observations which do not dispose us to regard soapsuds as a prophylactic against epidemics, in the sense which M. de Ruolz suggests.—*Lancet.*

3. *The Temperature and the Breath in Cholera.*

We present in this number a new hygrometric theory of cholera, which is mainly remarkable by its singularity, and by the opposition which it offers to accepted views, and in which a certain set of facts appears to confirm its author. The adjudication of the Bréant prize for 1858, on the best researches concerning cholera, and the exposition by the commission appointed, of the reasons which have influenced them in awarding the prize to M. Doyère for his researches upon the composition of the air expired by cholera patients, and upon the temperature of their body at the last moment of their lives, offer an inducement to us to give a summary of these views, which are the results of protracted and intelligent investigation.

As early as 1832, M. Rayer announced that the air expired by cholera patients contained an excess of oxygen. M. Doyère confirms this result. The expired air never contained a quantity of oxygen equal to that inspired; but the more serious the condition of the patient, the more oxygen was given off. The carbonic acid expired was constantly in defect: not more than one per cent. on an average. The

analysis of the products of expiration affords a measure of the gravity of the disease. In a patient who rapidly recovered, the absorbed oxygen was not less than three per cent., nor the exhaled carbonic acid less than two or three per cent. On the other hand, M. Doyère has never seen any patient saved after the figures fell below 1.75 per cent. for the former gas, and 1.45 for the latter, even though other symptoms were very promising. Usually the quantity of oxygen absorbed is always greater than the quantity of carbonic acid produced. The same fact had been pointed out by Dr. Malcolm, in 1844, in his treatise "on physiology," in typhus patients; and M. Doyère has found the like results in experimenting on patients affected with typhoid fever. Is, then, this fact due to the special influences of these diseases? or is the lessened elimination by the lungs a general condition of the febrile state? Here is an important question unanswered, and of the highest interest in the theory of febrile phenomena.

It is a remarkable fact that, notwithstanding the diminution of carbonic acid in the expired air, the temperature of the body does not fall; but that in proportion as the combustion of carbon lessens, the heat of the body increases; and that when the lung is giving off much less than its normal quantity of carbonic acid gas, the axillary temperature reaches 40 deg. Reaumur, or more. As death approaches, when the clogged circulation is on the point of being finally blocked, and respiration becomes each moment less active, the axillary temperature reaches 43 deg. Reaumur, to which it rarely attains in the height of fever. These facts, which have been confirmed in England and in the United States, still call for interpretation. The temperature falls immediately on death. The same phenomena have been observed in typhoid fever.

Is, then, this elevation of temperature peculiar to certain classes of diseases? or is it characteristic of the agony of death? These are questions which remain to be decided by further investigations. Such investigations belong to the highest department of scientific medicine, and are so likely to be fertile in results that will aid in solving the mysteries that surround the theories of life, that they deserve that encouragement from scientific men which they are not likely to receive elsewhere, and call for that reward of praise and recognition which supplies the absence of any material recompense.

4. *Phosphorus in the Treatment of Phthisis.*

Nearly a year ago we called attention to a new theory respecting the nature of phthisis, and a new method of its cure. The theory, in brief, was this—that the essential condition of phthisis is a deficiency in the system of phosphorus in a state capable of oxygenation; the cure naturally followed—give the hypophosphite of lime, or of soda, which offers the double condition of being assimilable, and at the same time of being in the least possible degree of oxydation. The remedy has been extensively tried, but we believe with only limited success. We observe that the editor of the Gazette Hebdomadaire of Paris has been publishing the results of his observations on patients treated by Dr. Churchill himself. The following translation of his article, or a part of it, is from the American Medical Monthly for January:

"Of the twelve cases of which I have made a statement, there are two in which I doubted, from my first examination, the existence of tuberculous phthisis, at least as being the chief of the local or general disease of which it was necessary to notice the ultimate progress. In one of these two cases the general condition was improved, and the local disease remained stationary at the end of four months. In the other, all the disease had disappeared at the end of four months. Ten cases remained, which can be called tuberculous phthisis, with every appearance of certainty. Of this number, in one, the local disease was improved at the end of four and a half months; in one it remained stationary at the end of four months; and in eight it was aggravated at the end of 4, 2, 3, 5, 4, 3½, 4½ and 3½ months, respectively. As to the general condition, in five cases there was evident amelioration; in one there was no appreciable change; and in four there was aggravation. In two of these last cases, it is true, the last note of M. Churchill makes no mention of the general condition, but my eyes assured me that this was far from being improved.

"After these results, it is impossible for me to attribute to the method of treatment adopted by M. Churchill any influence over the progress of tubercles, for we know very well that in this disease the disorganization of the lung is far from being continuous, even in the absence of all treatment; that, on the contrary, the evolution of tubercle usually presents periods of repose, during which the râles consequent on congestion of the tissues or the secretion of liquid

products, diminish or disappear. This is a point on which Dr. Austin Flint has lately insisted.*

"As to the influence of the treatment on the general health, especially upon the fleshiness of the patient, as well as upon certain thoracic symptoms, I ought to say, that it has seemed to be quite apparent. Nevertheless, I should not dare to rest my opinion on this small number of facts; and at any rate, I could not see that there was any thing specific in this result. Many preparations, but especially cod liver oil, when phthisical persons first use them, have the effect of at once restoring the flesh, the strength in a measure, and even diminishing the cough and the expectoration; but this does not stop the tuberculous disease, which slumbers for a moment only, to awake and resume its work of destruction."—*Boston Med. and Surg. Journal.*

5. *Influence of Posture on Tympanitic Percussion Sound.*

Dr. C. Gerhardt of Trilingen relates, in a late number of "Deutsche Klinik," that he noticed in a phthisical patient, aged 62 years, extremely emaciated, together with auscultatory signs indicating a large cavity, a rather full, clear, strongly tympanitic sound on percussion under the left clavicle, the pitch of which remained unchanged, whether the mouth was open or closed,* but became very perceptibly higher when the patient sat up. The inference necessarily was that the cavity must contain air and liquid, its greatest diameter must be in the long diameter of the body, and hence the greatest length of the space filled with air must, in consequence of the change in the position of the liquid in the sitting or standing posture, be diminished. Thus, the higher tympanitic sound would be produced, on the patient's rising from the horizontal position in bed; since the pitch of a sound increases with the diminution of the longest diameter of the body of air vibrating. The observation thus accidentally made, was frequently repeated, and the inference verified on post-mortem examinations. Dr. G. then extended his investigations to a great number of healthy as well as tuberculous persons, until he arrived at the following conclusions:

1. The tympanitic cavernous sound may become higher

* Wintrich directs attention to the difference of the tympanitic percussion sound observed over cavernous lungs, on opening and shutting the mouth, in Virchow's Handbook of Pathology and Therapeutics, vol. v, div. i, p. 20.

or lower, in the erect or sitting posture, than in the horizontal; which variation in pitch depends in all probability upon change in position of liquid in the cavity, and may become of great importance in diagnosis.

2. The non-tympanitic sound of the lung in the vicinity of the liver, is higher in the erect than in the horizontal posture.

3. The difference in sound may, in persons with lean and slender thorax, be detected sometimes up to the clavicular region.

6. *Chlohidric Acid in Cutaneous Affections.* By M. KLETZINSKI.

From a great number of experiments made with different agents, it results, according to the author, that none provokes or stimulates the cutaneous perspiration more than chlohydric acid. A portion of the skin wet with this liquid perspires in the same time, and under the same circumstances, 27 to 30 per cent. more carbonic acid, and, what is remarkable, 7 to 12 per cent. less water, than the same portion not wet. The author concludes that,

1. The chlohydric acid re-establishes the circulation of the blood when it is periodically interrupted, and accelerates it. It consequently cures chilblains, and even prevents them.

2. It diminishes the uncomfortable sweatings of the hands and feet, and causes them to cease entirely after a long continued use of it.

3. It is employed with success for the following diseases of the skin: acne sebacea, nœvi, condylomatas.

4. It does not injure the skin in any way, if properly used; on the contrary, it softens it, and can be regarded as a real cosmetic.

When employed, it should contain neither iron nor chlorine. It is used as concentrated as the patient can bear without feeling a burning sensation, and after thirty to sixty seconds the wet part is washed at first with pure water, and then with soap and water. For application to very sensitive parts of the skin, the acid should be greatly diluted with glycerine, and neutralized in a very short time.—*Echo Médicale.—Am. Med. Monthly.*

7. *Retention of Urine treated by Morphia and Carbonate of Soda.*

A patient, suffering from retention of urine, was recently admitted into the Royal free hospital, under Mr. Weeden Cooke's care; and, as often happens in such cases, it was impossible to pass a catheter. Full doses of morphia, with an alkaline carbonate, frequently repeated, had the effect of relieving the over-distended bladder, as related in the following brief notes of the case, furnished by Mr. Nathaniel F. Hall, house surgeon to the hospital:

Charles L——, aged twenty-five, a watch maker, was admitted on the 20th of March, with retention of urine. He was in great pain, the bladder being very much distended. He had been drinking rum and a small quantity of beer the previous night. He has had more or less difficulty in passing urine the past twelve months. An attempt was made to pass a No. 6 catheter, but without success, as upon the introduction of the instrument he immediately fainted. Three drachms of tincture of opium, in half-drachm doses, were administered at intervals of half an hour. After each dose, an ineffectual attempt was made by the house surgeon to pass a catheter. He had an enema containing two drachms of the tincture of opium, and two warm baths, with the same unsatisfactory result. Mr. Weeden Cooke ordered one grain of muriate of morphia, with a drachm of sesquicarbonate of soda, every two hours. In the course of the night, the patient passed about four ounces of urine, and the following afternoon the bladder was fully relieved. He had taken seven grains of morphia, and seven drachms of soda, before sufficient relief could be obtained. He is now doing well, and will leave the hospital in a few days.—*Lancet.*

8. *Lead in Phthisis.*

According to Brockmann, no workman in lead suffers from phthisis pulmonalis, even if there is hereditary predisposition and phthisical conformation of the chest.

Is not this an indication for the use of the preparations of lead in consumption of the lungs?

Saccharum saturni (plumbi acetas) has been used in pneumonia, and pituitous catarrh, with good effects; and in the last stages of phthisis pulmonalis it has not seldom been *given as* the ultimum solatium.

The properties of the lead salts are precisely those that are indicated in these cases—antiphlogistic, astringent and sedative. In consequence of these properties, lead has been called the narcoticum metallicum.—*Cin. Lancet & Observer.*

9. *Hypophosphite of Quinine—A New Remedy.* Proposed by J. Lawrence Smith, M. D., Professor of Chemistry, University of Louisville.

The recent recommendation by Dr. Churchill, of the use of the hypophosphites in the treatment of phthisis, is now undergoing a general test by the medical profession; and so far as reported upon, there appear to be different opinions in regard to their efficacy. Some speaking of them with much praise, while others see but little benefit from their use. In one thing all agree—that no injurious effect arises from their administration.

From my own observation and enquiry, patients using the hypophosphites, either in their solid form or their syrup or glycerole, have experienced marked relief from many of the annoying symptoms attending upon phthisis.

The special object of this note is to bring to the attention of the medical profession a new combination of hypophosphorous acid, which I have lately had made at the Louisville chemical works, namely, the hypophosphite of quinine.

It was first made by adding an excess of recently precipitated quinine to a hot solution of hypophosphorous acid, and on cooling, the salt crystalizes out in beautiful silky tufts, which, when dry and broken up, resemble asbestus in appearance. The method adopted and proposed for making it on a large scale, is by double decomposition; using the sulphate of quinine and the hypophosphite of baryta, the operation must be conducted so that there shall be no excess of either salt in the solution; the solution is filtered from the sulphate of baryta, concentrated and allowed to crystalize, which it does in the manner already mentioned.

The salt thus obtained is in delicate fibrous crystals, soft to the touch; they are of a beautiful silky lustre, very soluble in hot water; one ounce of cold water at 60° Fahr. dissolves 8 grains of the salt. When heated, it loses its water at about 230°, and at about 300° it turns brown and melts.

Proposed uses.—If the preparations of hypophosphorous acid are useful in phthisis and analogous diseases, then its combination with quinine must be beneficial in those phases

of these diseases where quinine is at all recommended. I would therefore suggest its use in the hectic fever of phthisis; also as a tonic in the same disease; also in the various forms of cachexy where quinine is used.

Nor ought its use to stop here; for owing to its solubility in water, it can be readily administered in that menstruum (say 5 grains to the ounce of water), thus becoming useful for children, and also in compounding, where the presence of an acid is objectionable, as is now necessary in dissolving the sulphate. In the form of a pill it would be more soluble in the stomach than in the sulphate.

With these few hints, I leave the article to the medical profession to be fairly tried, feeling confident that its solubility alone will be sufficient to make it an important addition to our materia medica.—*Louisville Med. News.*

SURGICAL PATHOLOGY AND OPERATIONS.

1. *American Operation for Vesico-Vaginal Fistula in Paris.*

M. Bozeman, one of the principal promoters of operations for vesico-vaginal fistula, has converted M. Robert at the Hotel Dieu, who was previously skeptical, from the fact, that notwithstanding the important labors of Jobert, the success in France of such operations had been the exception. The honor of the initiative in successful operations is very properly given to America, the English operators having wisely adopted the American method, and, as in the hands of Mr. Baker Brown of London, with the happiest results. One paragraph, however, of Mr. Robert's article I must transcribe; it is too good to be lost, and shows how utterly "at sea" our Trans-Atlantic confrères constantly prove themselves to be, respecting American practice:

"We should say, at first, that vesico-vaginal fistulæ, rare enough in France, are, on the contrary, frequent in England and in America, (?) on account of the position, which, in those two countries, women are made to take during parturition. They make them sit upon an arm-chair (fauteuil); the pelvis is then in a dependent position, and the head of the fœtus presses strongly upon the vaginal walls; hence, fistulæ are frequent. Surgeons, therefore, have numerous *operations* to make, and it appears that Mr. Baker Brown of

London occupies himself especially with this part of surgery."—*Gaz. des Hôpitaux.*

The patient reported appears to have been a very unpromising case for the operation, the fistula being very large, and the operations by simple suture, and by the autoplastic process of Gerdy, having been successively tried, and having failed, M. Bozeman proceeded to unite the edges with ten points of suture with silver wire, without any lateral incisions, the edges only being freshened. The advantages of the American operation are:

1. The silver sutures.
2. The position of the patient, on the knees flexed upon the pelvis, and the elbows, the head low.
3. The speculum being in the form of a curved gutter, made of copper, plated.
4. The greater extent of surface made raw, even extending to sound portions of the vaginal mucous lining.
5. The curved scissors.
6. Not permitting the suture to pass through the mucous membrane of the bladder.
7. The short interval between each suture.
8. The plate of lead, through holes in which the sutures are finally secured, compress the wound uniformly; it avoids the contact of liquids with the wound, and it supports the rings of lead which replace knots, and thus prevents irritation.

Lastly. The cares consecutive to the operation have a much greater importance attached to them in the American process. One thing more, the decubitus dorsalis is recommended to be strictly maintained, and the sutures to be allowed to remain ten days.—*Buffalo Med. Journal.*

2. *Tubage of the Larynx.*

In the Académie de Médicine, M. Malgaigne has had a very hot engagement with M. Trousseau, as to the value of tracheotomy in croup, and the substitution of "tubage of the larynx." The questio vexata of tracheotomy brought forward a discussion replete with practical instruction upon the operation, and the cares consecutive necessary to insure favorable results. Some bold expressions of doubt, as to the cypher of successful cases reported, having been collated only from cases where the operation was imperative, other treatment having failed.

The conclusions at the close of this debate were:

1. The tubage of the larynx, as it has been applied up to the present time, has not appeared to us sufficiently useful, or enough exempt from dangers, to merit the approbation of the academy.

2. Tracheotomy, in the actual state of the science, is the only mode of procedure, when there remain no other chances of safety in the employment of medical measures.

Buffalo Med. Jour.

3. *Statistics on Excision of the Knee-joint.*

This operation was lately mentioned at a meeting of the Surgical society of Paris, and doubts respecting its efficacy were raised by Messrs. Marjolin, Robert and Larrey. Thereupon, M. Giraldès set about collecting the cases which have hitherto been published, and presented the following figures:

From 1762 to 1858 the operation was performed 127 times; it proved fatal in 33 cases. The operations may be divided into the following series:

1st	series,	from	1762 to 1830,	19	operations,	12	deaths.
2d	"	"	1830 to 1854,	31	"	5	"
3d	"	"	1854 to 1856,	51	"	9	"
4th	"	"	1856 to 1858,	26	"	7	"

Out of the 31 patients of the 2d series, 17 have recovered, with a perfect use of the limb.

4. *Surgical Excerpts.*

Eczematous and impetiginous eruptions.—Modern dermatologists agree that resinous and empyreumatic products are among the most powerful local remedies for cutaneous eruptions. Tar ointment, prepared by uniting 1 to 3 parts of purified tar to 30 parts of lard, has been long used at the Hospital St. Louis in Paris, as the best resolvent in chronic squamous eruptions, and as a desiccative in eczema and impetigo. But we learn from the Bulletin Général de Thérapeutique of Aug. 15, 1858, that since the introduction of glycerine into pharmacy, M. Gibert prefers a *glycerole* of tar. An ounce of glycerine is heated and mixed with half a drachm of tar; half an ounce of powdered starch is stirred in while the mixture is hot. This gives a pommade which is not very thick, which is easily spread, and readily removed by water. M. Gibert states that it relieves itch-

ing, absorbs exhalation, dries up excoriations, and dissipates redness; in fact, acts as an astringent and resolvent without inducing irritation. He commends it especially in sub-inflammatory mentagra, prurigo of the anus and scrotum, eczema rubrum, and acne rosacea. M. Gibert also makes great use of the oil of cade (juniperus oxycedrus), which is usually mixed with twice its bulk of oil of sweet almonds or cod-liver oil. This is the huile cadée of St. Louis. It is particularly useful in papular, pruriginous and eczematous eruptions about the anus and genitals. The cold sitting bath, and the internal use of arsenic are sometimes employed with it.

Chlorate of potash in scrofulous sores.—Bouchat recommends a lotion of chlorate of potassa, ʒj to water ℥iij, as an application to ulcerated surfaces in strumous children, and especially to the sores resulting from blisters and chilblains.

Iodine applied to boils.—Dr. Edward Rigby advises (Med. Times & Gazette, July 1858) that the indurated tissue in the vicinity of incipient boils and carbuncles should be painted thickly with tincture of iodine for several successive nights, and claims to have arrested numerous furuncles by this measure. Mr. Cook of Scarborough speaks, in the same journal, of the use of tincture and ointment of belladonna, with almost equal assurance.

Iodine applied to corns.—Drs. Varges and Wager announce (Zeitung fur Med. und Chir.) that painting corns *three or four times daily* with the tincture of iodine will remove them in a very short time. When the corns are between the toes, the tincture should be diluted with glycerine. A bit of tinder should be dipped in the resulting fluid, and applied to the corn.

Pediculi pubis.—In the last volume (p. 329) we described a speedy method of destroying these parasites. An enquiry in the "Lancet" has elicited several practical suggestions on the subject. Dr. Ryding advises a means which is probably as sure as any: A lotion of twelve grains of bi-chloride of mercury in two ounces each of water and alcohol, is to be rubbed in with a piece of flannel for ten minutes, and the parts are then to be dusted with ammonio-chloride of mercury. This process is to be repeated night and morning for two days, then a warm bath with soap. Another writer recommends red precipitate ointment, two drachms to the ounce of lard. Another advises iodide of potassium oint-

ment, a half drachm to the ounce. A fourth suggests rubbing in a large quantity of calomel at bed-time, and asserts that one application will be sufficient.

Burns from gunpowder.—When the skin is burned by the near explosion of powder, unburnt grains are commonly deposited in the skin, in proportion to the coarseness of the granules and imperfection of the combustion. The resulting inflammation is insufficient to eliminate the grains; and unless each separate grain is removed by a needle point or knife, the person remains tattooed for life. This, though a tedious process, answers well in burns of a limited extent. But in a recent case, where the whole face was blackened, Prof. Busch (Virchow's Archiv. band 14, p. 379) tried a plan Hebra uses to remove freckles, by exciting an eczematous inflammation by means of corrosive sublimate lotions, gr. v, ad ℥viij. This was applied several hours daily for five days, and produced a smart eruption, detaching the granules. Whether this method would answer in any but burns of recent date remains to be proved.

Ointment for fissures and ulcerated chilblains.—Yellow wax, four drachms; melt with an ounce of linseed oil, triturate in a mortar, and add two drachms of tincture of benzoin, and four drachms of glycerine. Give an agreeable scent with oil of lavender.—*Dr. E. Bron.*

Ointment for acne.—Washed hog's lard, fourteen drachms; sublimed sulphur and tannin, of each one drachm; laurel-water, seventy-five minims. The dose of the sulphur and the tannin may be increased to one drachm and a half, and two drachms. This ointment may also be used in sycocis when the crusts have been removed.—*Dr. Rodet.*

Sedative application.—Extract of belladonna, one drachm and a half; liquefy with from thirty to forty-five drops of laudanum; triturate in a mortar, and add one drachm of chloroform. Spread this three or four times a day on the region affected with neuralgia or acute inflammation. It will adhere to the skin longer than an ointment.

Dr. Diday.

Discutient application to the indurated epididymis.—Extract of belladonna, one drachm and a half; soften in from fifteen to twenty drops of water, and add one drachm and a half of tincture of iodine. The effect is both sedative and discutient.—*Ib.*

Croton oil as an epispastic.—M. Von Bastelaer, of the Antwerp military hospital, has contrived the following formula: Recent lard 22, white wax 2, and croton oil 6 parts by weight. Melt the wax and lard by a gentle heat, and rub up in a heated mortar until the mass becomes cool, and then mix in the oil intimately. This pommade proves very useful when the influence of cantharides upon the urinary passages is feared.—*Bulletin de Thérapeutique.*

The electric cautery in obliteration of the nasal canal.—Dr. Restelli states that he has found cauterization by electrical heat an effectual remedy in several cases of obstruction of the nasal canal which had resisted various modes of treatment, the cure being both rapid and durable.—*Annales d'Oculistique.*

Eczema of the hands.—M. Guilot employs the following pommade at the Necker hospital with success: Lard, 30 parts; sub-carbonate of soda, pyroligneous oil of juniper, and tar aa 2 to 4 parts.—*Bull. de Thérap.*

Local anæsthesia.—M. Claisse proposes, in the Gazette des Hôpitaux, to use local anæsthesia. Into a small phial he introduces powdered camphor, so as to occupy one-third of the bottle; and then fills it up with sulphuric ether. With this solution the skin is to be lightly rubbed by means of a sponge fixed to a whalebone; a minute's friction suffices, and teeth may thus be extracted without pain, by applying the lotion to the gums. Other minor painless operations may also thus be performed. When the patient makes difficulties the rubbing should be repeated, as the effect is quickly lost.

OBSTETRICS, &c.

1. *Ergot.* (Imperial Academy of Medicine, Paris.)

M. Deville read a memoir entitled "Statistical Researches upon the Action of Ergot in Parturition." The author first proves that it is nearly always possible to determine the cause or causes which induce the child's death in the mother's womb, such as premature labor, vicious presentations,

etc. When none of these causes are present, and when the fœtus has arrived at full term in good condition, and when, notwithstanding this infant is born dead, with all the signs of asphyxia, it may be asserted that ergot has been administered. In analyzing, from this point of view, the documents collected during the years 1845 to 1848, in the different departments of Paris, M. Deville arrives at the conclusion, that of 515 infants born dead, seventy-two, that is, a little more than one-seventh of them, have fallen victims to the administration of ergot. He concludes from his researches, that ergot is always dangerous to the child's life; that it is generally given by unskillful hands, who most frequently do not properly consider the conditions which should be regarded in order to administer it with some chance of success; and, in fine, that even skillful physicians, when following the rules prescribed by science and experience, can never be sure that the child will be born alive where ergot has been given during labor.

It must be well understood that these conclusions invalidate, in no respect, the precious merits of ergot in uterine hemorrhages. (Commission: Dubois, Depaul, Dauyau.)

L'Union Médicale.

2. *Enlarged Mammary Glands.*

At the Charité, a young girl, aged 17, shows an enormous hypertrophy of the mammæ, thus described:

"The breasts of this young girl represent two enormous pedunculated appendages, falling over, and covering the chest and belly, down to the pubis. Measured in their greater diameter, they are seventy-five centimètres for the left, and seventy-two centimètres for the right. The circumference of the pedicles was about fifty centimètres. Their weight, as far as it was possible to appreciate it, was about six and a half kilogrammes for the left, which appeared a little more developed. The skin covering these enormous mammary glands (for, as we shall see at the right time, we had not to deal with either cancers, or adenoid, or lipomatous tumors, but just with a simple hypertrophy of the glandular tissue, as well as of all the anatomical tissues, adipose, cellular, skin, &c. which entered into the abnormal constitution of the breast)—the skin, we say, did not appear, at any point, to have undergone any alteration, or any modification in its texture; it was white, soft to the touch, *elastic,* mobile upon the subjacent parts; in a word, it

offered all the characters of the normal integument of the breast; it had acquired a gradual development, proportional to that of the gland, and of the other parts of the breast; consequently, it is neither thickened and hypertrophied, as in elephantiasis, for example, nor chapped, or rendered thin, as the integuments generally are, which have suffered a considerable and rapid distension. It was not drawn (tiraillée), save at the commencement of the breasts, at the pedicles, there where she supported all the weight of the breast in standing. The nipple did not exist, or, at least, it was flattened, and almost entirely effaced, but its place was perfectly indicated by the areola of a brownish tint, and extremely large."

Menstruation had been suppressed for six months. Amputation was performed upon each at an interval of twenty-one days. The hemorrhage from the very much enlarged veins, gave some trouble, but the operations proved successful; the menses reappeared, and she departed on her way rejoicing.—*Buffalo Med. Jour.*

3. *Detection of Pregnancy by Ergot.* (Communicated for the Boston Medical and Surgical Journal).

Messrs. Editors—I do not recollect of ever having seen the use of ergot recommended for the purpose of detecting pregnancy in its earlier stages. For many years I have been in the habit of administering small doses of this drug for this purpose, and in my hands it has seldom failed of furnishing the evidence sought. The specific action of the medicine is not felt by an unpregnated womb, while the gravid uterus, I believe, almost invariably responds to its action by some uneasiness in the back, but more particularly by pain in the upper part of the thighs, sufficiently to enable you to diagnosticate the case with great certainty. I have in many doubtful cases trusted to this test, and have very seldom been disappointed in my diagnosis. I will only add that the ergot can be given with entire safety in sufficient quantity to accomplish the object sought. If the use of the secale for this purpose is new to the profession, as I believe it is, and you consider these remarks worthy a place in your journal, you will please insert them, and oblige

Your ob't serv't,

W. W. C.

Middleboro', March 29, 1859.

4. *Extraordinary Fecundity.* By WILLIAM WOOD, M. D., of East Windsor Hill, Conn.

In the March number of the Medical and Surgical Reporter for 1856, I related the case of Mrs. R., who in five consecutive accouchements gave birth to five living children, weighing 62 lbs. 8 oz.—the largest, 13 lbs. 10 oz.; the smallest, 11 lbs. 12 oz. Since then, a case has occurred in my practice which is perhaps still more remarkable. I was called to attend upon Mrs. S., October 22, 1857, when she was delivered of three children, one male and two females. I was again called October 13, 1858, when she was delivered of two male children, making five children in two confinements, in 11 months and 22 days. All would probably have been born alive had it not been for the officiousness of the nurse at the first labor, who said "she found something hanging and thought it ought to come away," and had actually pulled away 15 inches of the funis before my arrival.

All were born alive except this one. The twins weighed 13 lbs. 4 oz. (6 lbs. 13 oz. and 6 lbs. 7 oz). The triplets, I regret to say, were not weighed. They were nearly as large as the twins; but calling them only 5 lbs. 8 oz. each, which I am confident is below their true weight, it gives about 30 lbs. of children in less than a year.

5. *Double Vagina and Os Uteri.*

Dr. Stickel of St. Louis reports (St. Louis Medical and Surgical Journal) a singular case of anomalous formation of the vagina and uterus. Having occasion to make a vaginal examination in a patient, he found a double vagina and double os uteri. The septum dividing the vagina was oblique in direction—in relation to the natural passage—commencing close to the clitoris on the right side, and stretching down to the centre of the labia on the left, forming a perfect partition through the whole length of the vagina, and at the termination of each passage was a perfect and complete os uteri. The patient said she menstruated from each passage alternately, but never from both at the same time; she did not say whether the alternation was regular. She had borne one child.—*Medical and Surgical Reporter.*

6. *On Serous Metrorrhœa in Pregnancy.*

M. Chassinat, in a very elaborate essay upon this subject, founded upon forty-two cases which he has collected from various authors, and ten cases not hitherto published, comes to the following conclusions:

1. The metrorrhœa of pregnant women, appearing at variable periods in the course of pregnancy, is an affection, of the reality of which no doubt can be entertained.

2. In the great majority of cases, if not in all, the liquid is secreted between the internal surface of the uterus and the envelopes of the fœtus, after detachment of the membranes. The differential characters suffice to distinguish it from the waters of the amnios, discharged by reason of the premature rupture of the membranes.

3. The causes which seem to favor this abnormal secretion, are a general polyæmia, or local irritation of the uterus, supervening in several cases upon external violence.

4. The pathognomic symptom is the issue of a fluid from the vulva, which is usually limpid, thin and albuminous, and which may or may not be accompanied by painful uterine contractions.

5. There is no anatomical lesion known which is peculiar to the disease.

6. In the great number of the cases, the metrorrhœa is dangerous to neither mother nor child, pregnancy going on to its normal term, the liquor amnii being as abundant as usual, and delivery proving neither longer nor more laborious.

7. As a general rule, no treatment is required. If general plethora prevails, bleeding may be resorted to. With rare exceptions, the pregnancy should be left to itself, and the labor allowed to terminate by the sole efforts of nature.

Gazette Méd.

7. *Spontaneous Post-Mortem Accouchement.*

In the Vierteljahrschrift is given a case of this kind. The mother, a strong, healthy peasant, had been forty hours in labor when M. Frentrop was called to her. The midwife had in vain attempted turning. The doctor also attempted it, and failed on account of the violent contractions of the uterus. The woman eventually died twenty-four hours later, undelivered. The woman was then laid out, and when they came to bury her, twelve hours afterwards, a child was found forced out of the womb, and lying between

the thighs of the mother; the placenta was unattached. The physiological fact, though not new, is interesting; but the practice of the doctor must have been disgracefully defective.—*Med. Times and Gaz.*

THERAPEUTICAL RECORD.

Aesculus hippocast. in intermittent fever.—Mouchon publishes the results which a Dr. Monvenoux has obtained by the administration of Aesculin (bitter extract of the Aesculus H. horse chestnut) in intermittent fever.

The medicine was prescribed for thirty-two patients, of which twenty-eight were laboring under the fever and four under intermittent neuralgia; of the former twenty-two were cured—the remaining six requiring the sulphate of quinia—of the latter, two were cured.

The aesculin was given in doses of one or two grains during the apyrexia.

Aneurisms.—In a recent clinical lecture, M. Bouilland mentioned that several internal aneurisms under his care had rapidly diminished under the use of iodide of potassium, in doses of one or two scruples per diem.

Asphyxia.—Brown-Séquard mentions in a late number of his journal, for the benefit of those who resort to galvanism as a remedial agent in asphyxia, that he never employs it, knowing that the best means of destroying the remains of life in dying persons is to subject their nerves and muscles to the exciting and exhausting action of galvanism.

Chaps and chilblains.—Dr. Bron prescribes: ℞ Cer. flav. ℥ss, ol. lin. ℥i. Melt and mix, and add tinct. benzoin, ℥ij; glycerin. ℥ss.

Diptheritis.—Dr. E. Perrey, drawing an analogy from Carmichael's use of turpentine to obviate plastic effusion in iritis, was led to employ it in diptheritic sore throat, and alleges (Med. Times and Gaz. No. 453) that he has found this remedy, conjoined with ammonia and wine, etc. exceedingly successful.

Dyspepsia.—A favorite formula of Dr. Bonnet of Lyons in dyspepsia with a tendency to diarrhœa, was bismuth subnit. ʒv, morphiæ hydrochlorat. gr. i, divided into twenty powders. A powder before breakfast and before dinner in sweetened water.—*Bull. de Thérap.* 1859, p. 91.

Enuresis.—Dr. Faure of Lyons (Bull. de Thérap. 1859, No. 2) states that the nocturnal enuresis of children will commonly be cured within a fortnight by the daily use of the following pill: Subcarb. ferrii, grs. iij; ext. belladon. et pulv. nucis vomicæ, aa gr. ½. Fiat pilula.

Pharyngitis.—Dr. Willemin of Vichy advises (L'Union Méd. July 15, 1858) inhalations of carbonic acid gas in granular pharyngitis, or the follicular sore throat of American writers.

Pruritus vulvæ.—Dr. Hardy, the eminent dermatologist, prescribes, according to his recently published "Lectures," lotions consisting of a scruple of cyanide of potassium to eight ounces of water, or corrosive sublimate, grs. ii, aa, ʒiv aquæ, and orders a strict regimen.

EDITORIAL AND MISCELLANEOUS.

The Association and the Conventions.

The month of May is destined to become with the medical as well as religious world, the great anniversary month of the year. Without mentioning the meetings of the various smaller medical bodies, our exchanges are filled with long reports of the Transactions of the New York and Massachusetts state societies; the Sanitary convention, held in New York; the convention of professors, held in Louisville; and lastly, the meeting of the Americal medical association, which may be regarded as the representative of the medical men of the Union.

Our pages for the present month are, therefore, crowded with the reports of these important proceedings; and we will only at this time devote a very moderate space to our usual editorial for the month.

The Sanitary convention brought together some of the most influential members of the profession. One hundred and forty delegates were present; and an elaborate report of eighty pages on the subject of quarantine, was submitted by the committee appointed at the last session.

This report has not yet reached us; but from the character of the debate, we should suppose that the convention, unable to resist the outside pressure of the mercantile community, always impatient at any legislation tending to restrict or embarrass the freedom of trade, was almost prepared to recommend the entire abandonment of all quarantine restrictions, leaving the public at large to take care of themselves.

Our own views on this subject have been expressed on other occasions, and we cannot consent to a step which will probably be advised by the Sanitary convention at its next meeting, so fraught with dangerous consequences to our Atlantic seaports not within the yellow fever zone proper, yet sufficiently near to the infected region to assume at times all the deadly tendencies of their more unfortunate neighbors. We cannot believe it possible that Norfolk or Philadelphia, or even New York, in view of the fact that yellow fever may be *grafted* upon them, transplanted, and under favoring circumstances, made to grow vigorously in their midst, can ever consent to the abolition of the quarantine restriction. The necessity of such regulations in New Orleans or Mobile, where the disease has a spontaneous origin, admits of discussion; but in our latitude we regard the vital importance of a careful and rigorous embargo as beyond dispute.

The Professorial Convention.

Our readers are familiar with the call made by the association at its Washington session, on the colleges, asking them to meet in convention, and adopt some uniform and improved system of teaching medicine in all its branches.

This convention, appointed to convene on the day preceding the meeting of the association in Louisville, organized, and endeavored to make some move in the matter. In view, however, of the fact, that many of the largest schools in the Union were unrepresented, and seeing that the tendency of the discussion was not towards harmony, but rapidly running into discord, we observe that Professor Joynes, of the Medical college of Virginia, judiciously moved the postponement of the whole question to a second convention of the colleges, and closed a scene calculated to attain no useful end, by an adjournment.

The Association.

Again have our brethren met together in grand assemblage, to shake hands, renew friendships, and eat suppers. The hospitable Kentuckians have thrown their doors open, and the beautiful city of Louisville tendered a hearty welcome.

True, indeed, the late meeting, as our readers may observe, has been wanting in some of its usual labors. The committees have not done their duty, and no essay worthy of a prize has been submitted to the association; but still the good effect, in a social point of view, cannot be denied; and the profession loses nothing by strengthening, in every legitimate way, the bonds of union and good fellowship.

We will also express our sincere pleasure at the proposition to divide the association into sections, each devoted to

a particular department of the science. This movement may transform the association into an active working body, and will greatly facilitate the transaction of business.

American Medical Association, at Louisville, May 3d, 1859.

THE twelfth annual meeting of the association met at eleven o'clock A. M. in Mozart hall—the president, Dr. Harvey Lindsly of the district of Columbia, in the chair, supported by Drs. W. L. Sutton of Kentucky, Thomas O. Edwards of Iowa, Josiah Crosby of Massachusetts and W. C. Warren of North Carolina, as vice presidents, with Drs. Alexander J. Semmes of the district of Columbia and S. M. Bemiss of Kentucky, acting as secretaries. Dr. Caspar Wister of Pennsylvania, treasurer, was also in attendance.

The president introduced the Rev. Mr. Robinson of Louisville, who opened the proceedings with prayer.

Dr. Robert J. Breckinridge, chairman of the committee of arrangements, then welcomed the delegates to the city.

Prof. Joshua B. Flint of Louisville, accompanied by Drs. Sutton, Chipley, Spilman and Snead, then came forward, and in behalf of the "State medical society of Kentucky," bid the association welcome to the medical jurisdiction of Kentucky.

The secretary, Dr. Bemiss, then called the roll of members of the association.

The president now announced a recess of fifteen minutes, to enable the various state delegations to choose their members for the committee on nominations.

Upon call to order, the following members were reported as the nominating committee.

New Hampshire, Dixi Crosby; Massachusetts, Solomon D. Townsend; Rhode Island, J. H. Eldridge; New York, D. M. Reese; New Jersey, A. N. Dougherty; Pennsylvania, R. K. Smith; Delaware, H. F. Askew; Maryland, G. W. Lawrence; District of Columbia, Cornelius Boyle; Virginia, L. S. Joynes; North Carolina, Edward Warren, jr.; South Carolina, J. M. Gaston; Georgia, John W. Jones; Alabama, J. B. Coons; Louisiana, S. O. Scruggs; Tennessee, E. B. Haskins; Kentucky, D. D. Thomson; Ohio, George Fries; Indiana, J. H. Brower; Michigan, William Brodie; Illinois,

C. Goodbrake; Missouri, M. L. Linton; Iowa, D. L. McGugin; Wisconsin, C. B. Chapman; Army, C. S. Tripler.

The president then appointed the following gentlemen a committee on voluntary essays: Drs. L. P. Yandell of Kentucky, James Bryan of Philadelphia, and C. G. Comegys of Ohio.

Dr. R. J. Breckinridge, from the committee of arrangements, announced the hours of business from 9 A. M. to 1 P. M. and 3 P. M. until such hour as the convention should adjourn upon resolution; which arrangement was adopted.

Dr. Harvey Lindsly, the president of the association, then read his retiring address, which was listened to with marked attention, and was an eloquent tribute to the dignity of the medical profession and the importance of its improvements.

After he had concluded, Dr. L. A. Smith of New Jersey moved that the thanks of the association be tendered to the president for his able and eloquent address; and it was ordered to be placed in the hands of the appropriate committee for publication, among the proceedings of the meeting.

Dr. Caspar Wister, chairman of the committee on publication, read the annual report; and on motion of Dr. Sayre of New York, the following resolutions appended to it, were unanimously adopted:

"Resolved, that hereafter every paper intended for publication in the Transactions, must not only be placed in the hands of the committee of publication by the first of June, but it must also be so prepared as to require no material alteration or addition at the hands of the author.

Resolved, that authors of papers be required to return their proofs within two weeks after their reception—otherwise, they will be passed over and omitted from the volume."

Adjourned until 3 o'clock P. M.

Afternoon Session.

Dr. W. L. Sutton, one of the vice-presidents, took the chair in the absence of the president.

Dr. D. Meredith Reese of New York, chairman of the committee on nominations, reported the following officers for the ensuing year:

President—Henry Miller of Kentucky.

Vice-Presidents—H. F. Askew, Delaware; Chas. S. Tripler, U. S. Army; L. A. Smith, New Jersey; Calvin West, Indiana.

Treasurer—Caspar Wister, Pennsylvania.

Secretary—S. M. Bemiss, Kentucky.

Dr. Sayre moved the adoption of the report; which was unanimously agreed to.

Dr. Brainard of Illinois moved the appointment of a committee to conduct the newly appointed officers to their respective chairs. The acting president selected Drs. Brainard of Illinois, Mattingly of Kentucky, Sutton of Indiana, McDowell of Missouri, and R. J. Breckinridge of Kentucky—and they accordingly performed the duties assigned to them.

The newly elected president, on taking the chair, addressed the convention, in substance, as follows:

"*Gentlemen of the American Medical Association*—I am wholly at a loss to command language to express the deep sense of obligation put upon me by calling me to the presidency of your association. It is an honor any man may well be proud of; and although I admit in all sincerity that you might without difficulty have selected an individual more worthy the position, I may be allowed to say you could not have conferred it upon one who would prize it more highly or cherish it longer with the most grateful recollection. I do esteem it the greatest honor ever conferred upon me by the profession that I love, and to which I have devoted a long life; nay, more—it is the greatest honor that could be conferred upon any man by the medical or any other profession in this or any other country; for any decoration of honor or any mark of approbation conferred by a crowned head, I should regard as a bauble in comparison. Who are you, gentlemen, when rightly considered? You are the rightful representatives of the great American medical profession—an army forty thousand strong, and a body of men, no matter what captious criticism may say in disparaging comparison with the European branch of the profession, in my humble judgment, far superior to the same number of medical men to be found in any quarter of the globe. Although, as a body, you may not be so learned, so critically and nicely framed in all the minutiæ of the profession, yet for strength, integrity, and precision in all the great principles guiding to a successful combat with disease, this body is equal, if not superior to that of any kingdom of continental Europe.

To be called to the presidency of such a body of men, is, in my sober judgment, the greatest compliment that could be conferred on mortal man, provided that man is a devotee of medicine, who has given his whole mind, soul, heart and strength individually to the profession, and has that high regard for it which will not suffer any less noble pursuit *to interfere* with the daily though laborious duties of the *profession*.

Coming so recently from a sick bed, and still enfeebled in health, I beg to be excused from further remarks, and desire you to accept this brief and imperfect acknowledgment of the distinguished honor conferred upon me, instead of what, under other circumstances, I might be disposed to say."

Dr. R. J. Breckinridge moved that the thanks of the association be tendered to the retiring officers, for the faithful and assiduous manner in which they have conducted the business committed to their charge; which was unanimously adopted.

Several names were now offered as candidates for membership, by invitation—when

Dr. T. O. Edwards moved that no person be admitted as a member by invitation, unless his good standing in the profession be vouched for by some member of the association; which was adopted.

Dr. Eve moved a reconsideration of the motion by Dr. Edwards; which was carried; and upon motion of Dr. Edwards, all applications for membership, by invitation, were referred to the committee of arrangements and credentials.

Dr. J. B. Lindsly of Tennessee offered the following:

"Resolved, that a committee of three be appointed by the chair to enquire into and report upon the propriety of dividing the association into sections, for the purpose of performing such parts of its scientific labors as may relate to particular branches of medicine and surgery."

Dr. Brodie moved its reference to the nominating committee.

Dr. Brainard explained at some length the object of the resolution of enquiry, and urged its adoption, as the means of giving more effect and usefulness to the proceedings of the association, the reports of which had heretofore gone out unmatured in consequence of the want of concentrated action.

A motion by Dr. Sayre to lay the motion on the table, was negatived, and the motion of Dr. Lindsly was then adopted.

The chair appointed, as the committee, Dr. Lindsly, of Tennessee, Dr. Brainard of Illinois and Dr. G. C. Blackman of Ohio.

Dr. Davis moved that no person be permitted to speak more than twice on the same subject, or more than ten minutes at one time, except by consent of the association; which was adopted.

The standing committee on prize essays was called on for

their report, but without a response. This was also the case with the committee on medical education. The committee on medical literature had no report to present.

A letter from Dr. J. G. F. Holston of Ohio, chairman of the special committee on the microscope, was read, reporting progress, and begging a continuance, for more extended investigation; which was referred to the committee on nominations.

A letter from Dr. Stephen Smith of New York, from the special committee on medical jurisprudence, had the same reference.

The special committee on quarantine was not ready to report.

Dr. Mattingly of Kentucky, from the special committee on diseases and mortality of boarding schools, asked a continuance until next year, in order to obtain further information requisite to the full investigation of the important subject. This was referred to the committee on nominations.

The special committee on surgical operations for the relief of defective vision, on milk sickness, and on the blood corpuscle, had the same reference.

A report from the committee on medical ethics was read, laid on the table, and such portion of it as related to the action of the Dubuque medical society, in the case of an expelled member, was, on motion of Dr. T. O. Edwards, made the special order for to-morrow, at 12 o'clock M.

Continuances were asked by the committees on the pons varolii, medulla oblongata, and spinal marrow—their pathology and therapeutics; on American medical necrology; on the hygienic relations of air, food, and water—the natural and artificial causes of their impurity, and the best methods by which they can be made most effectually to contribute to the public health; on the effect of the virus of rattlesnakes, &c., when introduced into the system of the mammalia; on the climate of the Pacific coast, and its modifying influences upon inflammatory action and diseases generally; on the constitutional origin of local diseases, and the local origin of constitutional diseases; on the physiological effects of the hydro carbons; on epilepsy; on the causes of the impulse of the heart, and the agencies which influence it in health and disease; and on the best substitute for cinchona, and its preparations, in the treatment of intermittent fever, &c.—all of which were referred to the committee on nominations.

The special committee on government meteorological reports made a report, written by Dr. R. H. Coolidge of the

U. S. army, but read by Dr. Paul F. Eve of Tennessee; which was referred to the committee on publication.

The committee appointed in May 1857 on criminal abortion, submitted a report, written by Dr. Storer of Boston; which was read by Dr. Blatchford of New York, and referred to the committee on publication. The following resolutions appended to this report were unanimously adopted:

"Resolved, that while physicians have long been united in condemning the act of producing abortion at every period of gestation, except as necessary for preserving the life of either mother or child, it has become the duty of this association, in view of the prevalence and increasing frequency of the crime, publicly to enter an earnest and solemn protest against such unwarrantable destruction of human life.

Resolved, that in pursuance of the grand and noble calling we profess—the saving of human lives—and of the sacred responsibilities thereby devolving upon us, the association present this subject to the attention of the several legislative assemblies of the Union, with the prayer that the laws by which the crime of procuring abortion is attempted to be controlled may be revised, and that such other action may be taken in the premises as they in their wisdom may deem necessary.

Resolved, that the association request the zealous co-operation of the various state medical societies in pressing the subject upon the legislatures of their respective states, and that the president and secretaries of the association are hereby authorized to carry out, by memorial, these resolutions."

The convention then adjourned till to-morrow morning at 9 o'clock.

Second Day—Wednesday, May 4, 1859.

The president, Dr. Miller, called the association to order at 9 o'clock.

Dr. D. Meredith Reese, chairman of the committee on nominations, called attention to the fact, that the committee could not act definitely until the place for next year's meeting should be designated. He stated also, that the Medical state society of Connecticut had requested that an amendment to the constitution, proposed two years since, should be taken from the table, relative to the time of meeting.

It was moved by Dr. Blatchford, and seconded by Dr. Sayre, that the amendment to the third article of the consti-

tution be taken up, which proposes to add after the words "first Tuesday in May," the words "or first Tuesday in June;" and after the words "shall be determined," the words "with the time of meeting."

The amendment was adopted by a constitutional vote.

Dr. D. M. Reese also stated that the Connecticut brethren had extended a kindly invitation to the association to hold its next meeting at New Haven, through Dr. C. Hooker; which invitation was referred to the committee on nominations.

Dr. Reese also called attention to the necessity of some radical change in the mode of appointing committees to prepare treatises on scientific subjects, to be reported at the annual meetings. It had been seen that on yesterday a large majority of the committees made no reports, and did not even see proper to send in any communication explanatory of delay. The difficulty heretofore has originated in the mode of selection adopted by the nominating committee. It has been customary for gentlemen to hand in their names and the proposed subjects, on slips of paper, and the committee, without further investigation, have so published in the annual reports. Thus it has happened that appointments have been most injudiciously made, and gentlemen, to whom a special duty has been assigned, have been found to know less of that than any other subject. He therefore hoped that no committee of last year would be reappointed or continued, from which no report had been had, and no communication received.

On motion, the nominating committee was unanimously instructed to act upon the suggestions of the chairman, who also stated that there should be some definite expression of disapprobation as to the course of those gentlemen who had volunteered essays, and had their names reported in the newspapers, and spread over the land, and then paid no further attention to the matter.

Dr. Flint, from the committee on prize essays, begged leave to report, that they received four dissertations in time for a careful and thorough examination, and two others, quite voluminous, only two days before the meeting of the association. The latter we have felt constrained to exclude altogether from the competition of the present year, on account of the absolute impossibility of reading them with a critical purpose and effect. The others have been carefully examined by all the surviving members of the committee—one estimable associate, Dr. Evans, having been called from all his earthly labors before the active duties of the committee began.

More than one of the four essays we examined exhibited much labor, and a commendable scholarship in their preparation—are voluminous, and in some respects very meritorious papers; but, in the unanimous judgment of the committee, neither of them possesses the degree and species of merit which should entitle its author to the association prize.

The committee beg leave furthermore to report, that in their opinion, and as the suggestion of their own recent experience, the association should determine, in a more precise and formal manner than has yet been done, the terms and conditions of competition and of success in the contest for prizes, for the government alike of contestants and the committee of adjudication, and that a committee be now appointed to consider and report upon the subject.

Dr. Gordon, chairman of the committee on etiology and pathology of cholera, made a partial report, and asked continuance of time.

On motion, the report was accepted, and referred to the committee on publication, and the petition for continuance referred to the nominating committee.

Dr. J. B. Lindsly, chairman of the committee appointed to enquire into the propriety of dividing the association into sections, for the better performance of its work in considering the various branches of medicine and surgery, recommended the adoption of such a plan, as being indispensably necessary to making this body a working scientific association. They do not deem it necessary to enter into any argument in favor of this plan, it being the one already universally adopted by similar bodies. They would simply recommend, for the present, a division into the following sections, as being most suitable to facilitate the transaction of business, viz:

1. Anatomy and Physiology. 2. Chemistry and Materia Medica. 3. Practical Medicine and Obstetrics. 4. Surgery.

The committee do not propose that this subdivision of labor shall in any manner interfere with the regular business of the association, as now conducted; but only that after having assembled each day in general session, each section shall meet separately for the purpose of hearing and discussing papers on such subjects as properly belong to them; and they therefore recommend that the committee of arrangements for the ensuing year be requested to provide suitable accommodations for the services of these sections, and that each of said sections shall be authorized to make

such arrangements as may be required for the proper transaction of its business.

This report was considered and adopted, after a very able speech in its support, by Dr. Davis.

Dr. J. W. Singleton of Kentucky moved the suspension of the rules, for the introduction of the following:

"Resolved, that in the death of Dr. A. Evans of Kentucky, the association has lost one of its most manly and efficient members, and society a friend and benefactor."

The resolution was unanimously adopted.

Dr. W. L. Sutton, under the resolution appointing a committee on registration of births, marriages, &c., proposed a plan of general action, an abstract of which he read, on motion of Dr. Gibbs of S. C.; and on motion of Dr. L. P. Yandell, the subject was referred to a committee, to report during the present session.

Drs. Sutton, J. B. Lindsly, W. R. Gibbs, James Bryan, Z. Pitcher and G. C. Shattuck were appointed such committee.

Dr. Blatchford stated that he had received from Dr. Willard, secretary of the New York state medical society, fifty volumes of their Transactions for 1858, for distribution to the medical press, the medical colleges, and all medical societies of the south, and sent with a request for an interchange of civilities. Gentlemen present can be supplied by application to Dr. Bemiss; and if the number sent be not sufficient for the supply, they will be cheerfully forwarded to any gentleman, by application to the secretary, Dr. S. D. Willard, Albany, N. Y., the postage being included in the application, which is twenty-two cents.

A report from Dr. Thomas Logan of California, on medical topography and epidemics, was received, and referred to the committee on publication.

The chairman of the committee on voluntary essays stated that he had received a paper on a case of extra-uterine fœtation, from Dr. Enos Hoyt of Transylvania, Mass., and another on a case of accidental poisoning by strychnine, from Dr. Douglas Bly of Rochester, N. Y. He also presented a very voluminous paper, entitled "Observations on some of the Changes of the Solids and Fluids in Malarial Fever, by Joseph Jones, Professor of Medical Chemistry in the Medical College of Georgia, at Augusta." By request, Prof. Jones gave a verbal abstract of his paper, and an exposition of his theory; and on motion of Dr. D. W. Yandell, the communication was referred to the committee on publication.

Dr. D. W. Yandell announced that the following rail road

companies had agreed to pass delegates to this convention over their roads at half price: Pittsburg, Fort Wayne and Chicago; Pennsylvania Central; Jeffersonville; New Albany and Salem; Louisville and Nashville, and Cleveland and Pittsburg.

On motion, a vote of thanks was tendered to these companies for their liberality.

Dr. J. B. Flint offered the following resolution:

"Whereas our brethren of Great Britain are engaged in erecting a monument to the memory of John Hunter, whose invaluable services in behalf of physiology and surgery are recognized and honored, as well on this side of the Atlantic as in Europe: and whereas this association, as the representatives of American medicine, would rejoice in some suitable manner to participate in so grateful a testimonial of gratitude and respect: therefore,

Resolved, that a committee of three be appointed to consider in what manner this participation can best be effected, so as to be acceptable to our British brethren, and consistent with our means and opportunities of action, with instructions to report at the next annual meeting."

The resolution was adopted, and Drs. Flint, Bowditch and Shattuck appointed as the committee.

Dr. Harvey Lindsly offered the following:

"Whereas parliamentary rules of order are numerous, complicated, sometimes obscure, and often inapplicable to such a body as the American medical association: and whereas, from the nature of the pursuits of medical men, they cannot be familiar with these rules: therefore,

Resolved, that a select committee of three members be appointed to prepare a system of rules for the government of this association, as few in number, as concise and as perspicuous as possible, to be reported at the next annual meeting."

This resolution was adopted, and Drs. Lindsly, Comegys and Blatchford appointed as the committee.

The paper of Dr. Bly, on accidental poisoning by strychnine, was read by its author; and, as individual cases are not reported in the Transactions of the association (except as illustrations of principles), thanks were returned for the communication, with a request that it be published in some medical journal.

An invitation from Grand Master Morris, of the masons, was received, urging medical brethren to attend the Masonic convention now in session in this city.

The nominating committee made the following report:

The next annual meeting to take place at New Haven, on the first Tuesday of June 1860. Dr. Eli Ives is elected junior secretary.

Committee of Arrangements—Drs. Chas. Hooker, Stephen G. Hubbard and Benjamin Silliman, jr., with power to add to their numbers.

Committee on Prize Essays—Drs. Worthington Hooker, Conn.; G. S. Shattuck, Mass.; Usher Parsons, R. I.; P. A. Jewett, Conn., and John Knight, Conn.

Committee on Publication—Drs. F. G. Smith, Philadelphia, Pa.; Wister, do.; Bemiss, Louisville, Ky.; Ives, New Haven, Conn.; Hollingsworth, Philadelphia, Pa., and Askew, Wilmington, Del.

Committee on Medical Literature—Drs. Henry Campbell, Ga.; D. F. Wright, Tenn.; G. Wendell Holmes, Mass.; S. C. Armor, Ohio, and W. H. Byford, Ill.

Committee on Medical Education—Drs. D. M. Reese, N. Y.; W. R. Bolling, Tenn.; Chas. Fishback, Ind.; John Bell, Penn.; Z. Pitcher, Mich.

The following special committees were appointed:

On Morbus Coxarius, and Surgical Pathology of Articular Inflammation—Dr. Lewis A. Sayre of New York.

On the Surgical Treatment of Strictures of the Urethra—Dr. James Bryan of Philadelphia.

On Drainage and Sewerage of Large Cities, their Influence on Public Health—Drs. A. J. Semmes, D. C., chairman; Cornelius Boyle, and G. M. Dove.

On Puerperal Tetanus, its Statistics, Pathology, and Treatment—Dr. D. L. McGugin of Keokuk, Iowa.

On Hospital Epidemics—Dr. R. K. Smith of Philadelphia.

On Puerperal Fever—Dr. S. N. Green of Stilesville, Ind.

On Anæmia and Chlorosis—Dr. H. P. Ayres of Fort Wayne, Ind.

On Veratrum Viride—Dr. James B. McCaw of Richmond, Va.

On Alcohol—its Therapeutical Effects—Dr. J. R. W. Dunbar of Baltimore, Md.

On Meteorology—Dr. J. G. Westmoreland, Atlanta, Ga.

On Milk Sickness—Dr. Robert Thompson, Columbus, Ohio.

On Manifestations of Disease of Nerve Centres—Dr. C. B. Chapman, Wisconsin.

On the Medical Topography of Iowa—Dr. T. O. Edwards, Iowa.

On Microscopic Observations on Cancer Cells—Dr. Geo. *D. Norris*, New Market, Ala.

On the Philosophy of Practical Medicine—Dr. James Graham, Cincinnati, Ohio.

On some of the Peculiarities of the North Pacific, and their Relations to Climate—Dr. Wm. H. Doughty, Ga.

The following special committees were continued or altered.

On Microscope—John C. Dalton, jr., N. Y.; David Hutchinson, Ind.; A. R. Stout, Cal.; Calvin Ellis, Mass.; Christopher Johnson, Maryland.

On Diseases and Mortality of Boarding Schools—Dr. C. Mattingly, Ky., and Dixi Crosby, N. H.

On the Various Surgical Operations for the Relief of Defective Vision—Drs. M. A. Pallen, Mo.; T. J. Cogley, Ind., and W. Hunt, Penn.

On the Blood Corpuscle—Dr. A. Sagar, Michigan.

On American Medical Necrology—Dr. C. C. Cox, Md.

On the Hygienic Relations of Air, Food and Water—the natural and artificial causes of their impurity, and the best methods by which they can be made most effectually to contribute to the public health—Dr. C. C. Cox, Maryland.

On the Effect of Virus of Rattlesnakes, &c. when introduced into the System of Mammalia—Dr. A. S. Payne, Va.

On the Climate of the Pacific Coast, and its modifying Influences upon Inflammatory Action and Diseases generally—Dr. O. Harvey, California.

On the Constitutional Origin of Local Diseases and the Local Origin of Constitutional Diseases—Drs. W. H. McKee, North Carolina, and C. F. Heywood, New York.

On motion of Dr. Brodie. Dr. A. J. Semmes was requested to serve as secretary pro tem. during the remainder of the session.

The association took up the special order, being the report on medical ethics, to which had been referred the action of the Dubuque medical society; which, after debate, was laid over until 12 o'clock to-morrow.

On motion of Dr. H. F. Campbell, a section of meteorology, medical topography and epidemic diseases, and of medical jurisprudence and hygiene, was added to those already adopted by this association.

The association then proceeded to consider and act upon amendments to the constitution proposed at the last annual meeting, and laid over under the rules. The following amendment was adopted:

"Resolved, that the constitution of this association be so amended as to provide that no individual who shall be under sentence of expulsion or suspension from any state or local

medical society, of which he may have been a member, shall be received as a delegate to this body, or be allowed any of the privileges of a member, until he shall have been relieved from said sentence by such state or local society."

The next amendment, lying over from last year, was the proposition of Dr. Kyle of Ohio:

"That the constitution of the association be so amended as to prohibit the admission as a delegate, or the recognition as a member, of any person who is not a graduate of some respectable medical college."

This amendment was rejected; but on the question of reconsideration, a long and animated debate ensued. Without arriving at a vote, the association adjourned.

Afternoon Session.

The association was called to order at 3 P. M., Dr. M. F. Askew in the chair. The discussion on the amendment under consideration at the time of adjournment, was renewed.

Dr. Kincaid moved a further amendment, to insert the word "hereafter" after "prohibiting."

The chair ruled the amendment out of order at the present stage, or until the association decide upon the question of reconsideration.

After a long discussion, Dr. Davis of Ind. moved to lay the motion to reconsider on the table; which was carried, 97 yeas, nays not counted—so the amendment stands registered.

The next proposed amendment to the constitution was that suggested by the New Jersey medical society, asking for such changes as would establish a board of censors in every judicial district of the supreme court, who should examine and grant diplomas to all proper members of the association.

This was temporarily laid on the table, for Dr. Crosby to offer a report of the Medical teachers' convention, which met on Monday last. He strongly recommended a committee from this body to confer with the teachers' committee, and felt great confidence that something beneficial to medical education would be the effect of such conference.

Dr. Comegys moved the appointment of a committee of five to confer with the committee of medical teachers, and report at the next annual meeting, provided that no medical teacher be selected on the part of this association.

Dr. T. M. Blatchford of New York offered as a substitute the following preamble and resolution:

"Whereas, of all the subjects which can engage our attention in our associate capacity, that of medical education is paramount: and whereas harmony of action is essential to success in establishing definite qualifications entitling to admission in our ranks: and whereas nothing can be gained by hasty action in a matter so vital to our very existence as a permanent medical institution: therefore,

Resolved, that further action be suspended for the present upon the subject of the resolutions offered at the last meeting of the association by the chairman of the special committee on medical education, and that a committee, consisting of S. W. Butler of Pennsylvania, L. A. Smith of New Jersey, Dixi Crosby of New Hampshire, C. A. Pope of Missouri, and T. Buckler of Maryland, shall be appointed to confer with the committee appointed at the meeting of medical teachers, to report some plan for action at the next meeting of the association."

This amendment was lost, and the original resolution adopted.

The resolutions from the New Jersey medical society were then taken from the table, and referred to the committee of conference.

Dr. Davis offered a resolution instructing the same committee to confer with the state medical societies, for the purpose of procuring more decisive and uniform action throughout the profession, in carrying into effect the standard of preliminary education adopted by this association, at its organization in 1847. This was carried.

Dr. Gibbs, from the committee to examine into a plan of uniform registration of births, marriages and deaths, offered the following report:

They have given the same a careful consideration, and they unanimously recommend that the report be adopted, and referred to the committee on publication.

They also recommend that the same committee be continued, with instructions to add to the report, in time for publication in the ensuing volume of Transactions, a form of registration law which may be likely to answer the requirements of the several states.

Dr. Sayre of New York offered the following:

"Whereas, the medical profession at large have an interest in the character and qualifications of those who are to be admitted as their associates in the profession: therefore,

Resolved, that each state medical society be requested to appoint annually two delegates for each college in that state, whose duty it shall be to attend the examinations of all can-

didates for graduation; and that the colleges be requested to permit such delegates to participate in the examination, and vote on the qualifications of all such candidates."

This was, on motion, referred to the committee of conference.

The paper of Dr. Jones, presented at the morning session, was taken from the committee on publication, and referred to the committee on prize essays.

Dr. Eve moved to record the name of Dr. Benj. W. Dudley as a permanent member, which was adopted by a unanimous vote—the delegates all rising to their feet in token of respect.

Adjourned till to-morrow morning, at 9 o'clock.

Third Day—Thursday, May 5, 1859.

The president called the association to order at 9 o'clock, and the reading of the minutes of yesterday was dispensed with.

The first business in order was an amendment to the constitution, laid over from last year, and proposed by Dr. T. L. Mason of New York, to insert in the first line of the second paragraph of ART. II, after the words "shall receive the appointment from," the words "any medical society permanently organized in accordance with the laws regulating the practice of physic and surgery in the state in which they are situated, and consisting of physicians and surgeons regularly authorized to practice their profession." Also, to add to the sixth paragraph of the same article the words "but each permanent member of the first class designated in this plan of organization, shall be entitled to a seat in this association, on his presenting to this body a certificate of his good standing, signed by the secretary of the society to which he may belong at the time of each annual meeting of this body."

Dr. Lyndon A. Smith of New Jersey said, amendments to the constitution should be adopted with care; and though perhaps that now proposed might be desirable, still, as Dr. Mason, who had proposed it, was not present to explain his views, he moved that the subject be laid over until next year.

This suggestion was adopted.

Another constitutional amendment, proposed by Dr. Henry Hartshorne of Pennsylvania, and laid over from last year under the rules, provides to add to ART. II. the words "no

one expelled from this association shall at any time thereafter be received as a delegate or member, unless by a three-fourths vote of the members present at the meeting to which he is sent, or at which he is proposed."

This amendment was adopted.

Another amendment, proposed by J. Berrien Lindsly of Tennessee, was called up, to omit in ART. II the words "medical colleges, hospitals, lunatic asylums, and other permanently organized medical institutions in good standing in the United States;" and also to omit the words "the faculty of every regularly constituted medical college or chartered school of medicine shall have the privilege of sending two delegates. The professional staff of every chartered or municipal hospital containing a hundred inmates or more shall have the privilege of sending two delegates; and every other permanently organized medical institution of good standing, shall have the privilege of sending one delegate."

This was laid on the table until the next annual meeting.

An invitation was received from Mons. Groux, requesting the delegates to meet him at the hall of the university at noon to-day, to witness experiments on his congenital fissure of the sternum, which was deferred until four o'clock this afternoon, as the association had previously accepted the hospitality of Mr. and Mrs. Robert J. Ward, at the former hour.

Dr. McDermott submitted the following resolutions:

"Whereas, a vast proportion of the disease and misery that afflict our race is caused by the excessive use of intoxicating liquors: and whereas, in the opinion of this association, the evils of intoxication can be most effectually remedied by the establishment of inebriate asylums, wherein the victims of intemperance may be subjected to such restraints and treatment as shall effect a thorough reformation of their habits: therefore,

Resolved, that this association recommend the establishment of inebriate asylums in the various states of the Union.

Resolved, that the state and county medical societies, and all members of the medical profession, be requested to unite in diffusing among the people a better knowledge and appreciation of the beneficent purposes and important benefits that would be conferred upon society by the establishment of such asylums throughout the various sections of the country."

This resolution was referred to the mover, as a special committee, with a request that he would report thereon at the next meeting of the association.

Dr. Shattuck offered the following, which was adopted:

"Resolved, that the committee appointed in May 1857, on criminal abortion, be requested to continue their labors, and especially to take all measures necessary to carry into effect the resolutions reported by them on the first day of the meeting."

Dr. Yandell, from the committee on voluntary essays, made a further report, that a communication had been received from Dr. Langer of Iowa, on subcutaneous injections as remedials; which, on motion, the author read.

The essay was referred to the writer as a special committee, with the request that he would report further at the next annual meeting of the association, and continue his investigations.

Invitations to visit the insane asylum and the library and museum of Transylvania university, were received.

The president appointed as the committee of conference, to meet the committee from the teachers' convention, the following gentlemen: Drs. Blatchford, Troy, N. Y.; Condie, Philadelphia, Pa.; Bozeman, Montgomery, Ala.; Brodie, Detroit, Michigan, and Sneed, Frankfort, Ky.

Dr. D. Meredith Reese, from the nominating committee, made the following final report:

Special committees continued.

On Quarantine—Drs. D. D. Clark, Penn.; Snow, R. I.; Jewell, Penn.; Fenner, La., and Houck, Md.

On Medical Ethics—Drs. Schuck, Penn.; Murphy, Ohio; Linton, Mo.; Powell, Ga.; Eve, Tenn.

On Tracheotomy in Membraneous Croup—Dr. A. V. Dougherty, N. J.

On Mercurial Fumigation in Syphilis—Dr. D. W. Yandell, Louisville, Ky.

On the Improvements in the Science and Art of Surgery, made during the last Half Century—Dr. Jos. McDowell, St. Louis, Mo.

On the Cause and Increase of Crime, and its Mode of Punishment—Dr. W. C. Sneed, Frankfort, Ky.

On the Education of Imbecile and Idiotic Children—Dr. H. P. Ayres, Fort Wayne, Ind.

On the Uses and Abuses of the Speculum Uteri—Dr. C. H. Spillman, Kentucky.

On the Topography of Vermont—Dr. Perkins of Vermont.

On the Pons Varolii, &c.—Dr. S. B. Richardson of Kentucky, and Dr. Fishback of Indiana.

On the Physiological Effects of the Hydro-Carbons—Dr. *F. W.* White of Illinois.

On the Effect of the Perineal Operations for Urinary Calculi upon Procreation in the Male—Dr. J. S. White of Tennessee.

The paper from Dr. Ellis of Massachusetts on the subject, "Does the microscope enable us to make a positive diagnosis of cancer, and what, if any, are the sources of error?" was referred to the special committee on the microscope, of which Dr. Dalton is chairman.

On motion, the report was adopted as a whole.

Honorary resolutions were passed to the memory of the following members of the association, deceased: Dr. W. W. Boling of Alabama; Dr. Thomas D. Mütter of Penn.; Dr. P. C. Gaillard of S. C.; Dr. Jabez G. Goble of New Jersey; Dr. John K. Mitchell of Tenn.

Dr. R. K. Smith of Philadelphia submitted the following:

"Resolved, that the death of Dr. John K. Mitchell, one of the members of this association, has been to this body a loss keenly felt by every man who knew him. His eminence as a teacher, his varied acquirements in every department of learning, and his generous social qualities in every relation, endeared him to every member of the profession who had the pleasure of his personal acquaintance.

Resolved, that the family be notified of the action of this association."

Other more formal resolutions were offered, and feeling eulogies pronounced.

Dr. Sayre offered the following, which were adopted by acclamation:

"Resolved, that the thanks of the American medical association are eminently due and are hereby presented to the citizens of Louisville, Ky., for the princely hospitality publicly and privately extended to the members of this body during its present session.

Resolved, that to the committee of arrangements, and the profession of Louisville generally, our thanks are due, for their kind and assiduous attention to the association, and for the hearty welcome with which they have greeted our convention in their flourishing city."

After the transaction of some other unimportant routine business,

On motion of Dr. Davis, the association adjourned, to meet at New Haven on the first Tuesday in June 1860.

VARIETIES.

Medical News and Items.

PENNSYLVANIA HOSPITAL.—Prof. G. B. Wood, who has for many years been one of the physicians to this institution, a position which he has filled with eminent credit to himself, with great benefit to the sick who needed the aid of the charity, and greatly to the advantage of the numerous students who sought clinical instruction there, has resigned. Dr. F. G. Smith has been elected in his place.

MEDICAL DEPARTMENT OF PENNSYLVANIA COLLEGE.—In April last it was announced that Prof. A. Stillé had retired from this school. Since then the remaining members of the faculty have sent in their resignations to the trustees of the parent institution at Gettysburg. The faculty of the "Philadelphia medical college" applied for the vacant chairs, to which they have been elected, and the professors in the latter school now constitute the faculty of the Pennsylvania medical college.

MEDICAL DEPARTMENT OF THE ARMY.—The army medical board recommended the following gentlemen for appointment in the medical staff of the army:

No. 1. George Suckley, M. D., New York.

No. 2. Dewitt C. Peters, M. D., New York.

No. 3. Charles H. Alden, M. D., Pennsylvania.

Assistant surgeons, Alexander B. Hasson and Jonathan Letherman were examined by the board and found qualified for promotion.

COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.—Dr. Thos. M. Markoe has been appointed "lecturer adjunct to the professor of surgery," and Dr. Geo. T. Elliott, jr., "lecturer adjunct to the professor of obstetrics," in this school.

PROHIBITION OF EMPIRICAL PREPARATIONS IN RUSSIA.—The Russian government has issued the most stringent orders to refuse admission at the various custom-houses to the following substances: 1. Collodium cantharidale. 2. Hydrargyrum zooticum. 3. Morrison's pills. 4. Oleum harlamense. 5. Hydrargyrum sulphuratum stibiatum. 6. Leroy's medicines. 7. Ferrum limatum alcoholisatum, and Revalenta Arabica. 8. Lactate of iron lozenges. 9. Essentia coffeæ. 10. Extractum filicis maris æthereum. 11. Theriac. 12. Extracta medicinalia. This is a very wise regulation, excluding, on the one hand, dangerous quack medicines, such as Morrison's and Leroy's, and on the other, preventing the credulous from investing their money in such preparations as the Revalenta Arabica.—*Med. Zeit. Russlands.*

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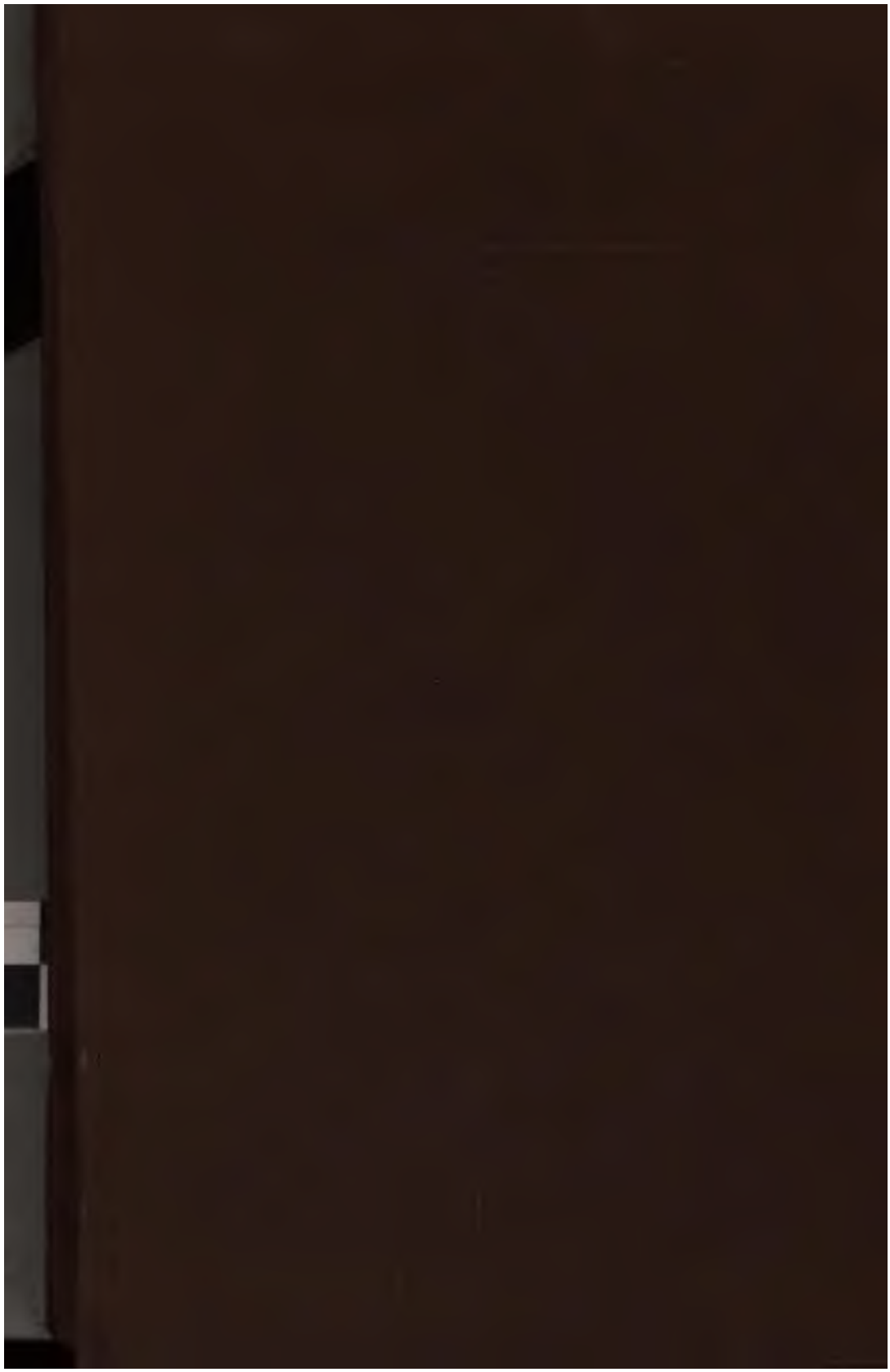
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